

NORTHERN ALASKA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE FAIRBANKS AK
514 AM ADT THU APR 17 2008

.SYNOPSIS...

THE LONG WAVE PATTERN CONSISTING OF A TROUGH OVER WESTERN CANADA A RIDGE OVER WESTERN ALASKA AND A TROUGH OVER THE WESTERN BERING IS NOW PROGRESSING WITH THE RIDGE MOVING OVER MAINLAND ALASKA THU NIGHT. THE RIDGE WILL THEN BUILD THROUGH SUNDAY INTO AN OMEGA

BLOCK WITH THE BLOCKING HIGH REMAINING OVER MAINLAND AK. THIS MEANS CONDITIONS WILL WARM SOME FRI AND THEN WARM SIGNIFICANTLY OVER THE WEEKEND INTO NEXT TUE AS 850 MB TEMPS WARM ABOVE ZERO UNDER THIS RIDGE WITH SURFACE TEMPS IN THE 40S AND 50S.

A TROUGH ALOFT FROM BARTER ISLAND TO DELTA JUNCTION WILL MOVE EAST OF THE ALCAN BORDER THIS MORNING. ISOLATED FLURRIES AND FOG OVER THE EASTERN INTERIOR WILL DIMINISH THIS MORNING.

A WARM FRONT FROM ANADYR TO GAMBELL TO ANVIK WILL MOVE TO THE BERING STRAIT TO MCGRATH BY 4PM THU..TO POINT HOPE TO DENALI BY 4AM FRI...TO WAINWRIGHT TO DELTA BY 4PM FRI AND ALONG THE ALCAN BORDER BY 4AM SUN. WILL SEE SEVERAL INCHES OF SNOW AHEAD OF THE FRONT ALONG NORTON SOUND DIMINISHING AS IT MOVES EAST. WILL SEE SOUTH WINDS 15-25 KT ALONG THE FRONT ALONG THE WEST COAST CAUSING BLOWING SNOW. BLOWING SNOW WILL DIMINISH SOUTH OF THE WARM FRONT

AS SURFACE TEMPS WARM TO NEAR FREEZING. RAIN WILL BE POSSIBLE SOUTH OF THE WARM FRONT AS WELL. TEMPS WILL WARM CONSIDERABLY OVER THE INTERIOR SOUTH OF THE WARM FRONT.

A TRAILING LOW WILL MOVE TO JUST SOUTH OF CAPE NAVARIN AS A 1003 MB LOW BY 4AM FRI WITH A COLD FRONT TRAILING SOUTH...TO NEAR ANADYR AS A 1001 MB LOW BY 4PM FRI WITH THE FRONT FROM THE CHUKCHI SEA TO POINT HOPE TO GAMBELL...WITH THE LOW MOVING TO THE NORTHERN CHUKCHI SEA BY 4AM SAT WITH THE FRONT TO JUST EAST OF BARROW TO KOTZEBUE TO GAMBELL. WILL SEE SOUTH WINDS UP TO 35 KT ALONG THE FRONT ALONG WITH A MIX OF RAIN AND SNOW.

&&

.DISCUSSION...

NAM AND GFS MODELS INITIALIZE WELL AND SHOW SIMILAR SOLUTIONS THROUGH 4AM SAT AT THE SURFACE AND AT 500 MB.

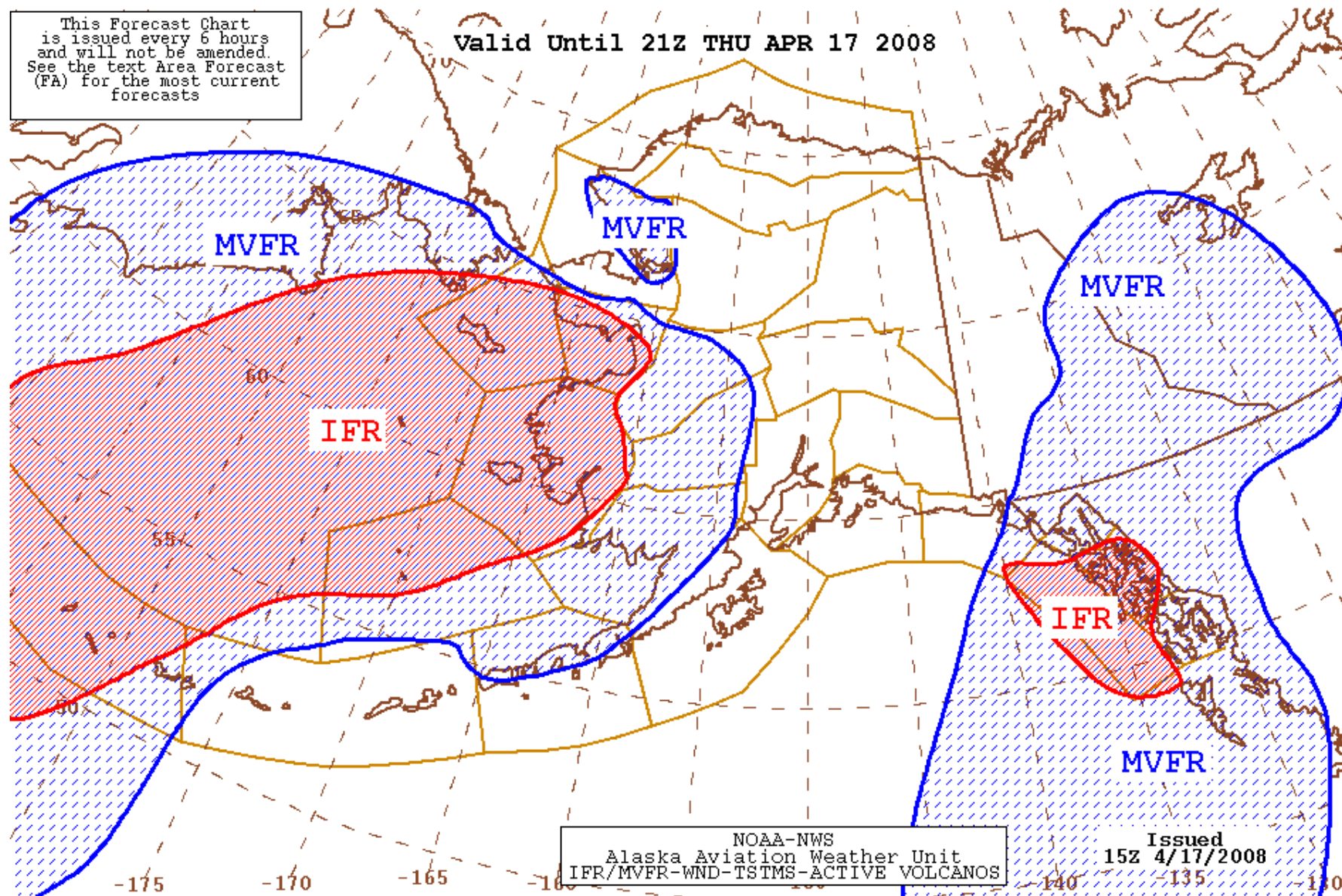
Red=IFR
Blue=MVFR
Black=VFR

Barrow Metars

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PABR 171553Z 23003KT 7SM R06/1800VP6000FT CLR M28/M29 A3044 RMK AO2 SLP311 VIS SE-SW 1/2 T12831289
PABR 171453Z 24004KT 10SM CLR M28/M29 A3043 RMK AO2 SLP308 T12831294 51018
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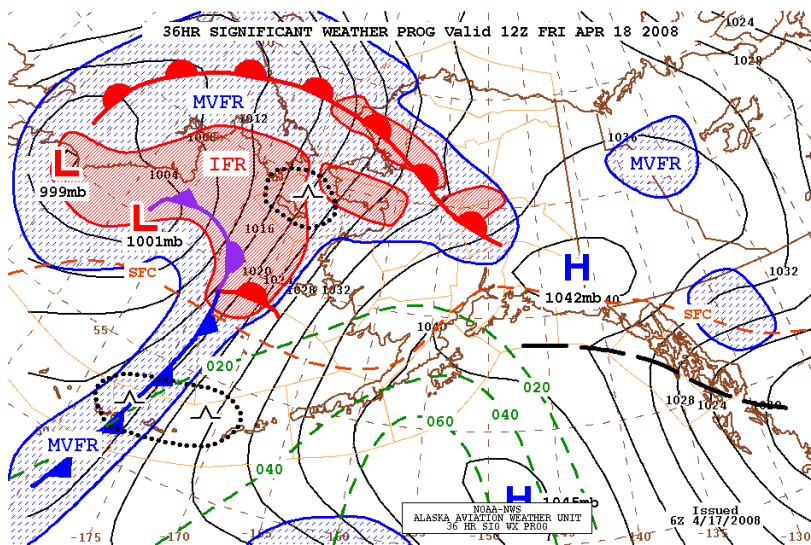
This Forecast Chart
is issued every 6 hours
and will not be amended.
See the text Area Forecast
(FA) for the most current
forecasts

Valid Until 21Z THU APR 17 2008

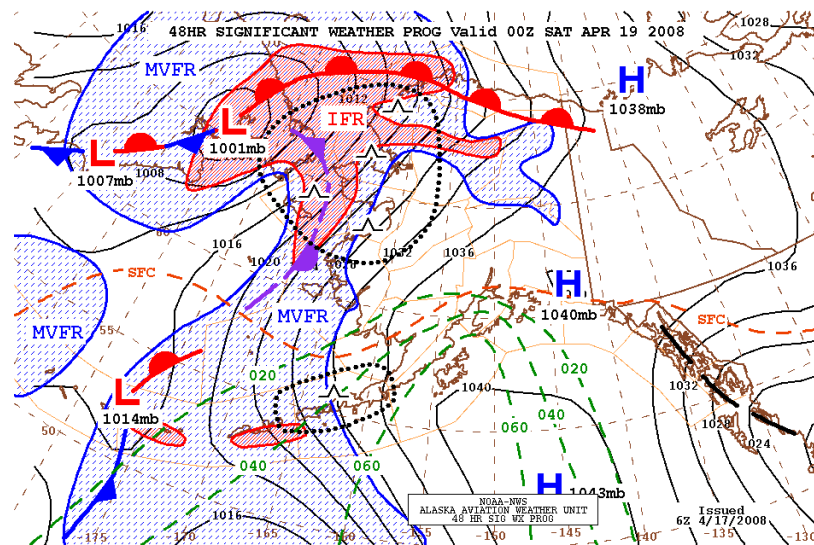


NOAA-NWS
Alaska Aviation Weather Unit
IFR/MVFR-WND-TSTMS-ACTIVE VOLCANOS

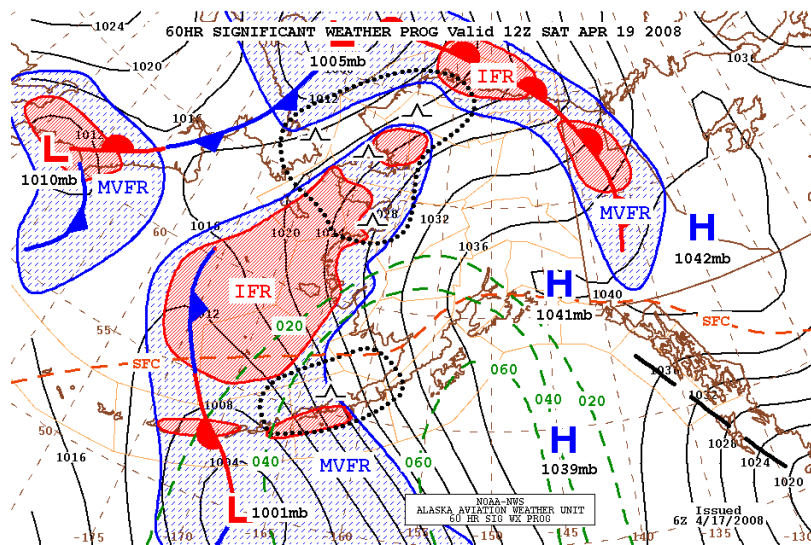
Issued
15Z 4/17/2008



000418/1200V036 SFC SN5ENSL



000419/0000V048 SFC SN5ENSL



000419/1200V060 SFC SN5ENSL

NWS- Forecast: MIDDLE TANANA VALLEY- INCLUDING...FAIRBANKS
607 AM ADT THU APR 17 2008

TODAY...MOSTLY CLOUDY. PATCHY FOG AND FLURRIES ENDING THIS MORNING. HIGHS 25 TO 35. SOUTHWEST WINDS 5 TO 15 MPH. **.TONIGHT...**CLOUDY WITH SNOW LIKELY. SNOW ACCUMULATION TO 1 INCH. LOWS 15 TO 20. SOUTH WINDS AROUND 10 MPH.

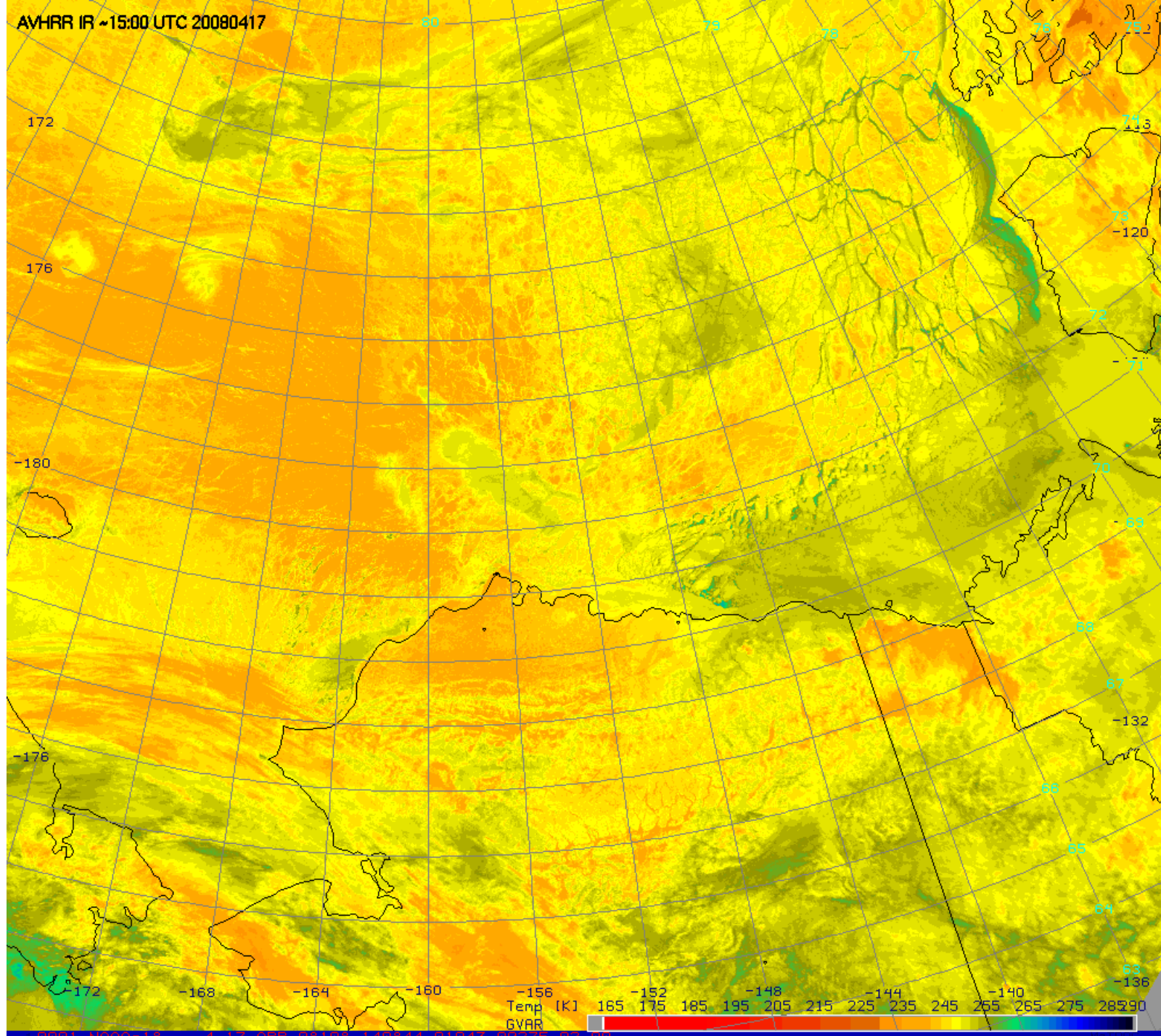
FRIDAY...MOSTLY CLOUDY. A CHANCE OF SNOW IN THE MORNING...THEN A CHANCE OF RAIN IN THE AFTERNOON. HIGHS AROUND 40. SOUTHWEST WINDS 10 MPH. **.FRIDAY NIGHT...**MOSTLY CLOUDY. LOWS AROUND 20. LIGHT WINDS.

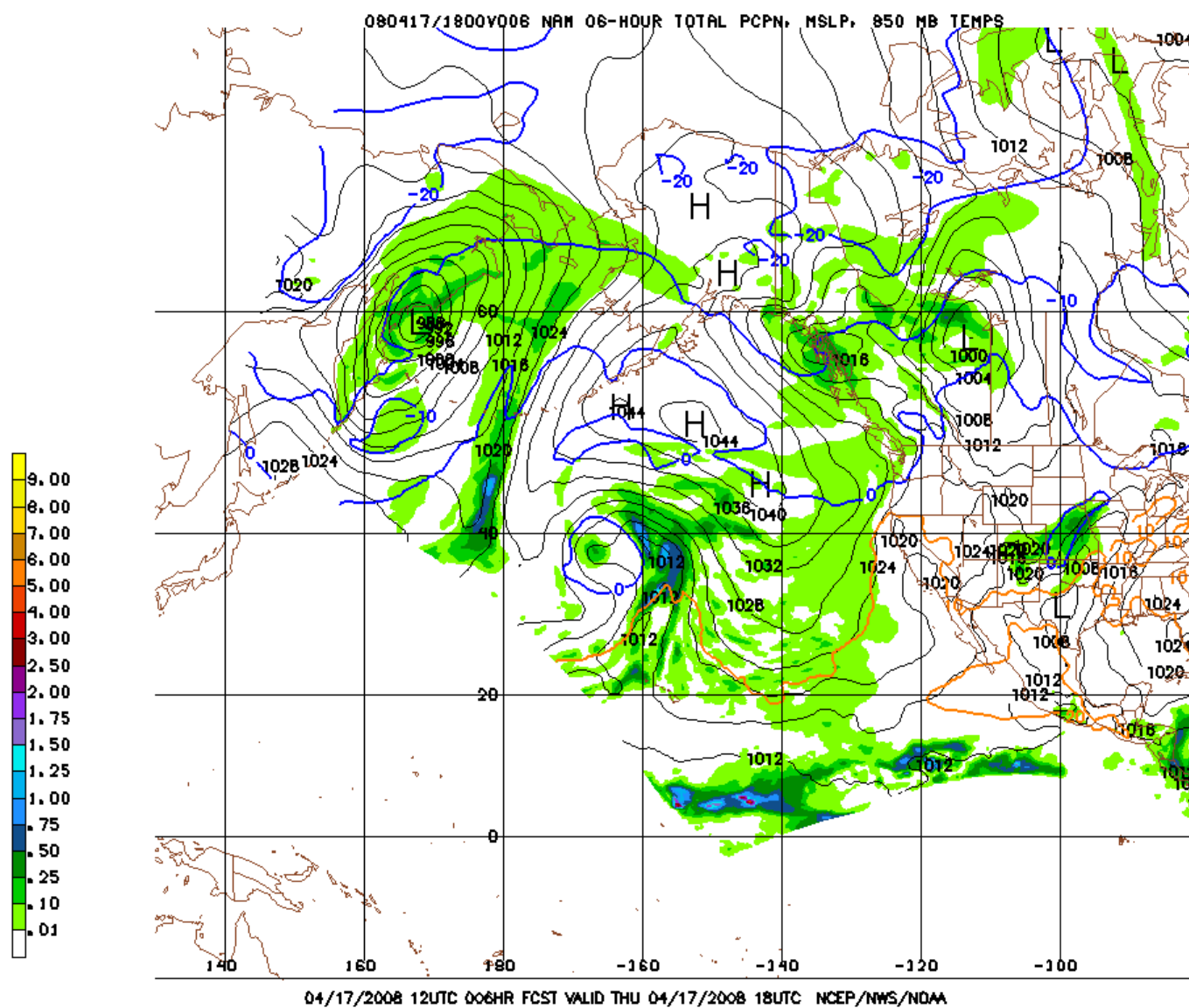
SATURDAY...MOSTLY CLOUDY. HIGHS 45 TO 50. LIGHT WINDS. **.SATURDAY NIGHT...**PARTLY CLOUDY. LOWS NEAR 25.

SUNDAY...PARTLY CLOUDY. HIGHS 50 TO 55. **.SUNDAY NIGHT...**PARTLY CLOUDY. LOWS NEAR 25.

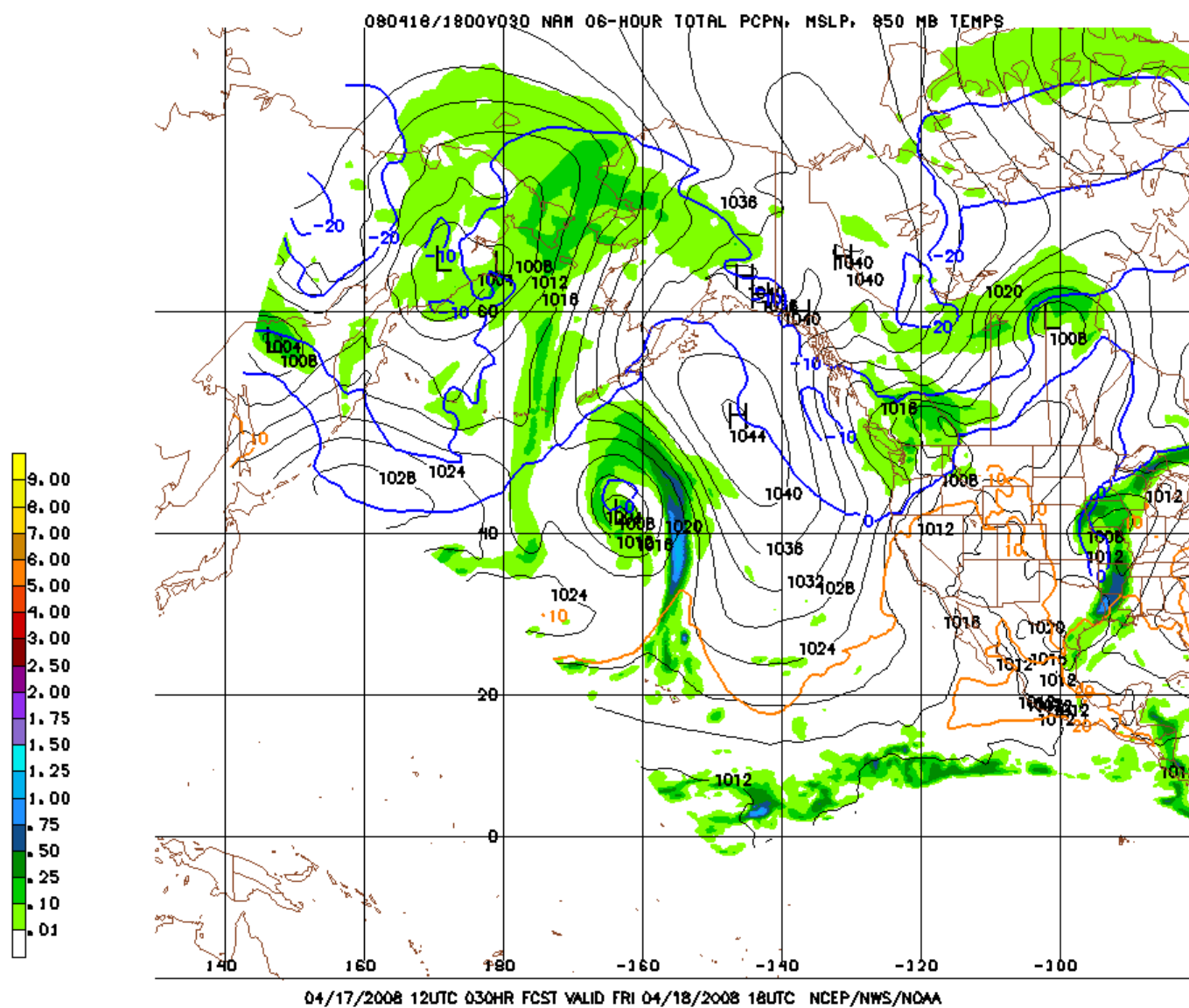
MONDAY...PARTLY CLOUDY. HIGHS NEAR 50. **.MONDAY NIGHT...**PARTLY CLOUDY. LOWS NEAR 20.

TUESDAY...PARTLY CLOUDY. HIGHS NEAR 45.

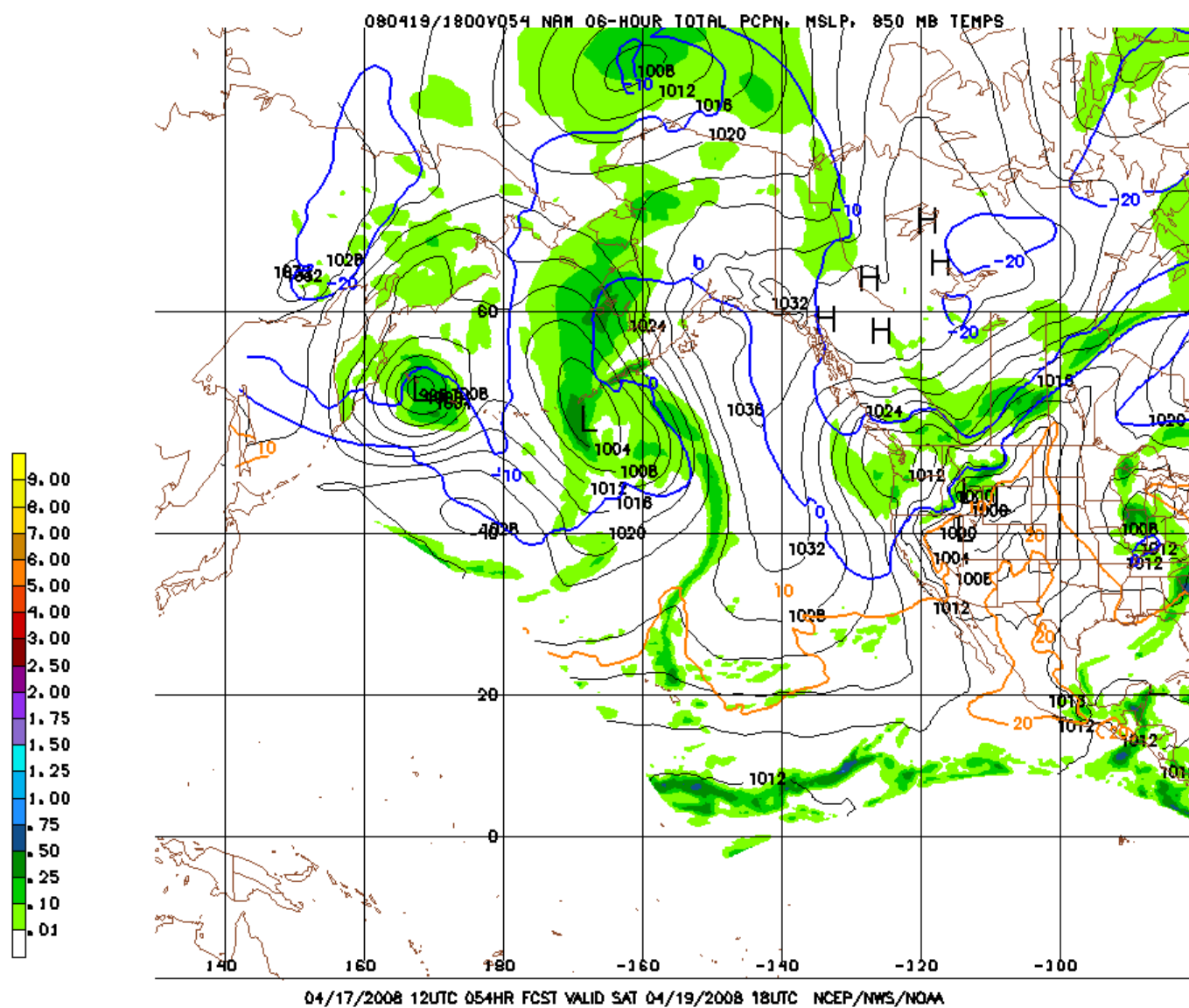




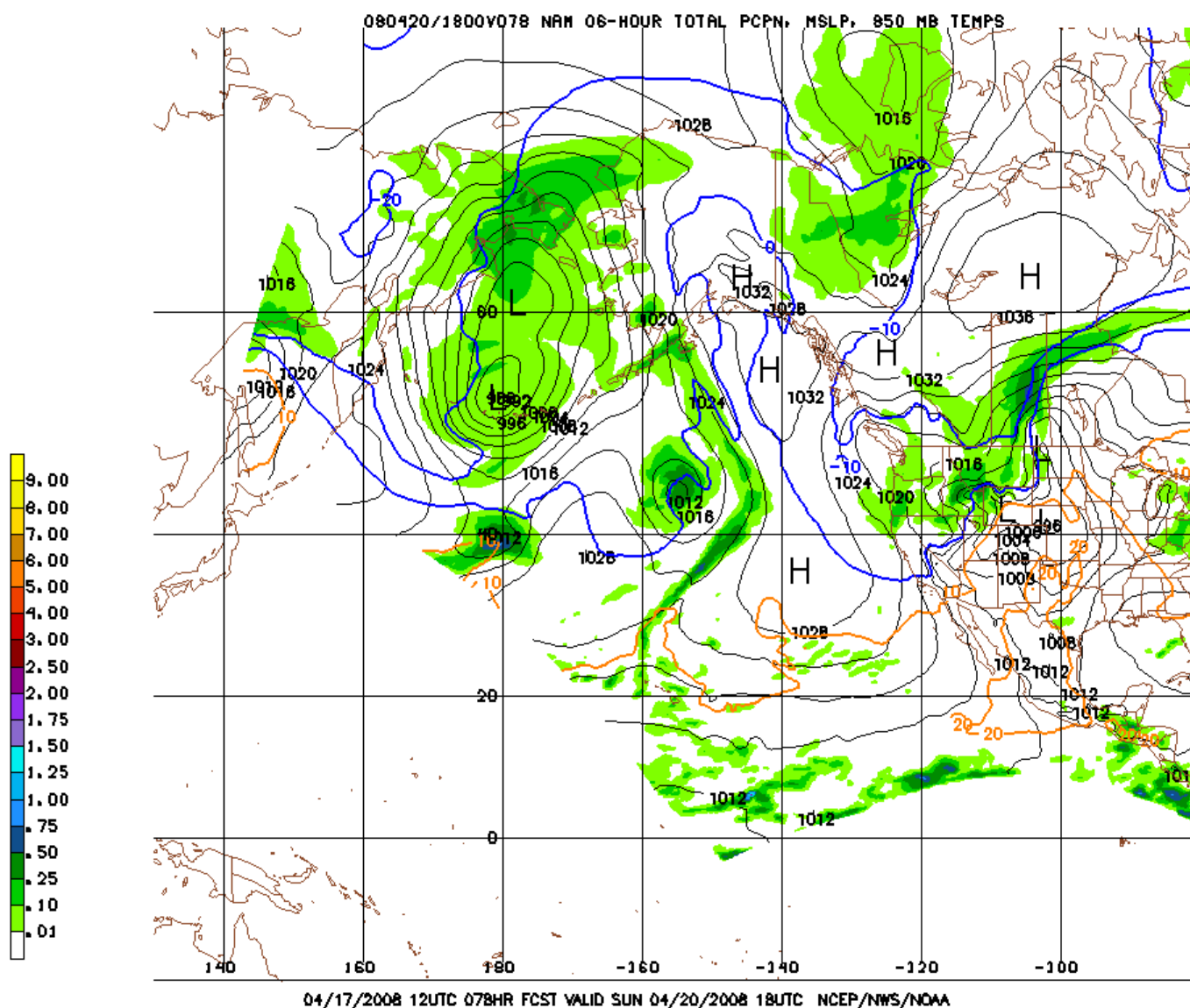
NAM 10:00 AM local today



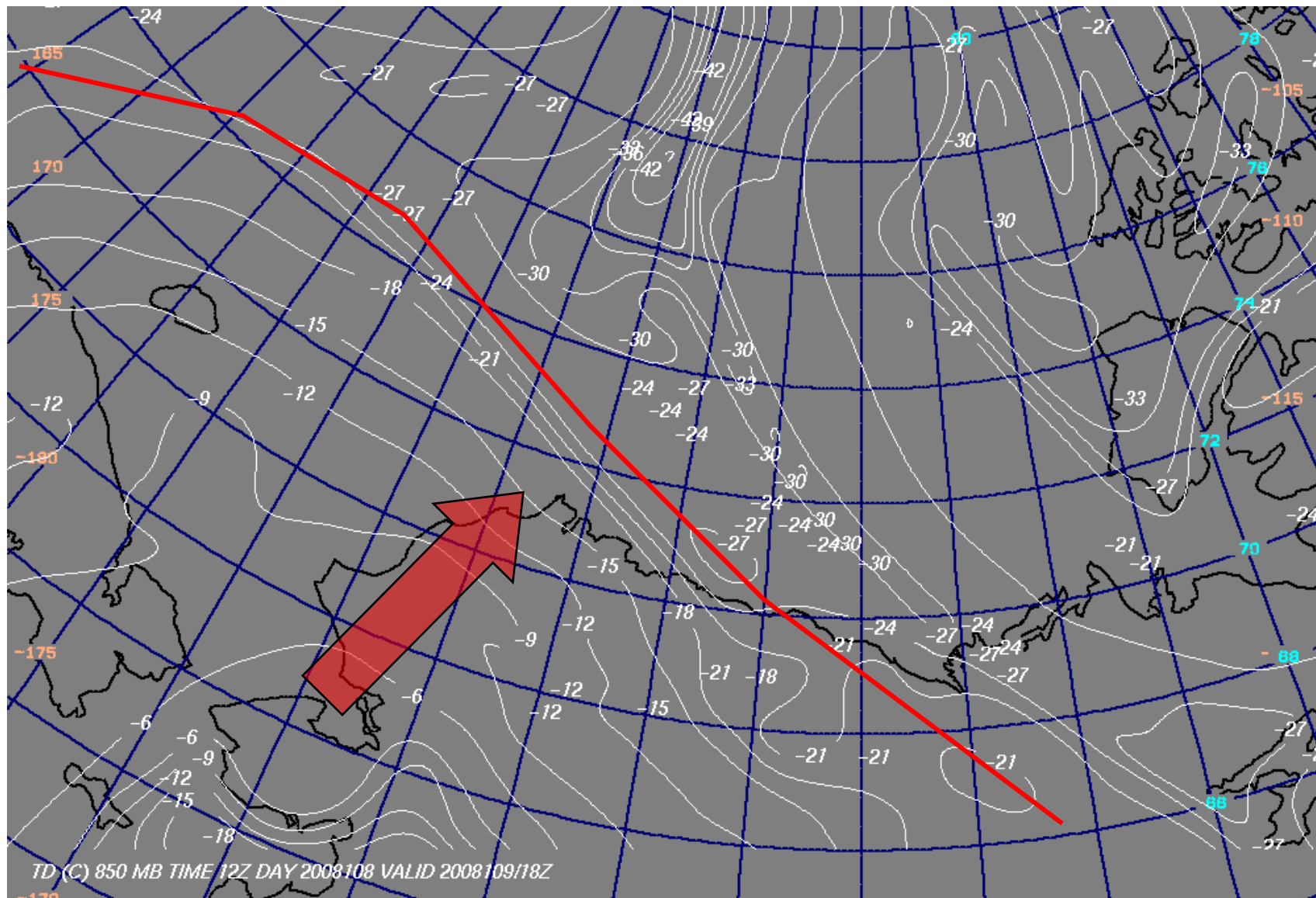
NAM 10:00 AM local Friday



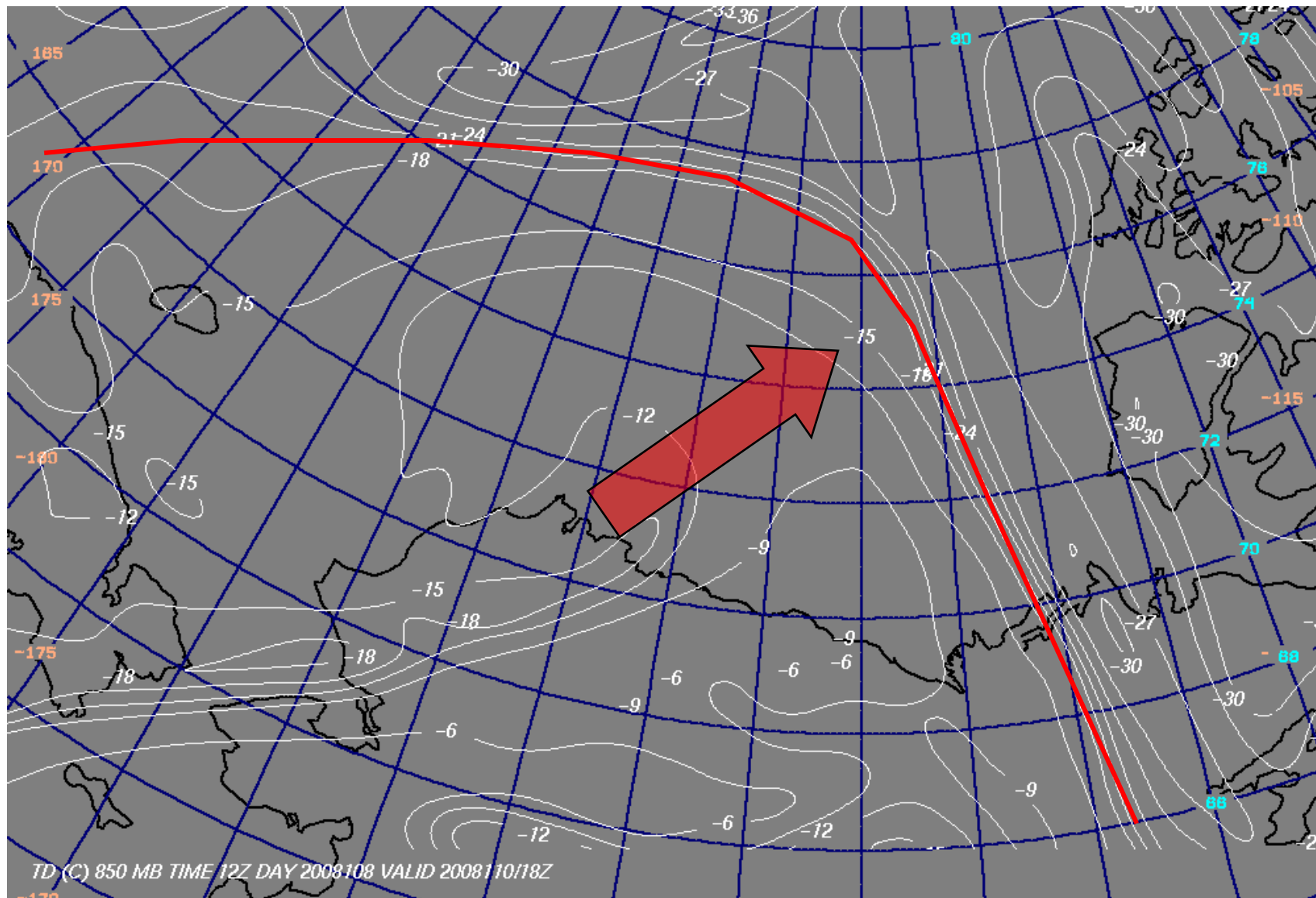
NAM 10:00 AM local Saturday



NAM 10:00 AM local Sunday

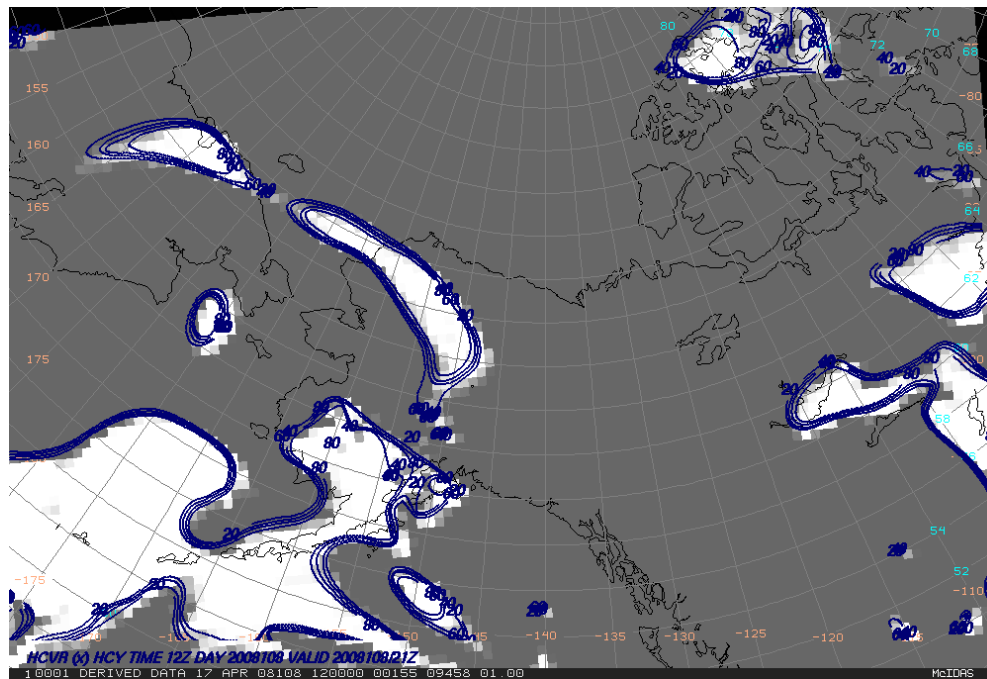


NAM 850 hPa dewpoint temperature, 10:00 AM local, Friday

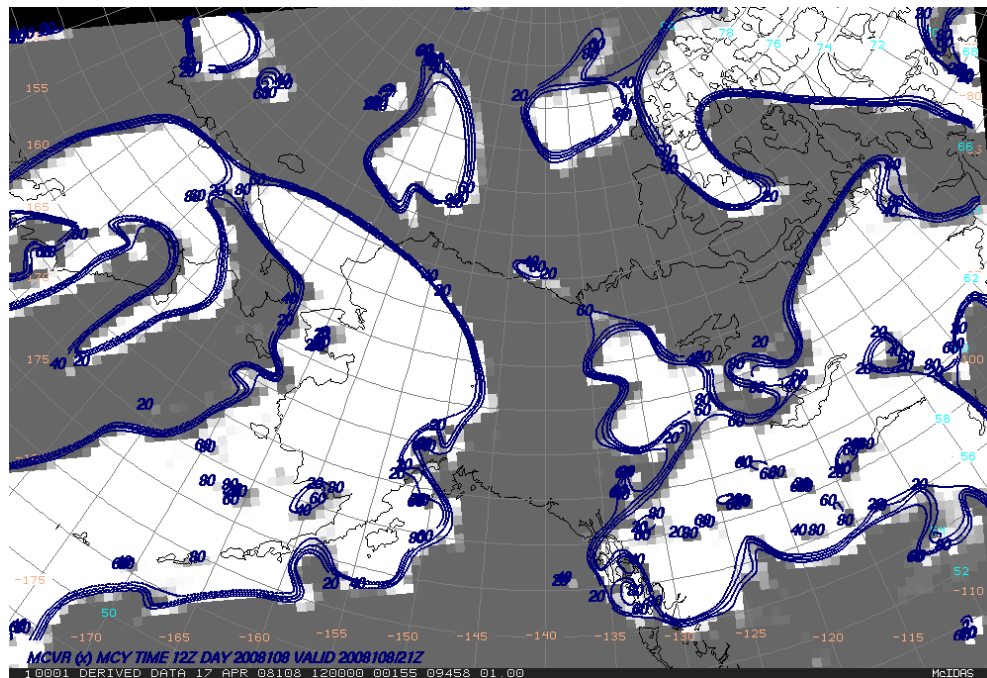


1:00 PM local
Today

High-level cloud

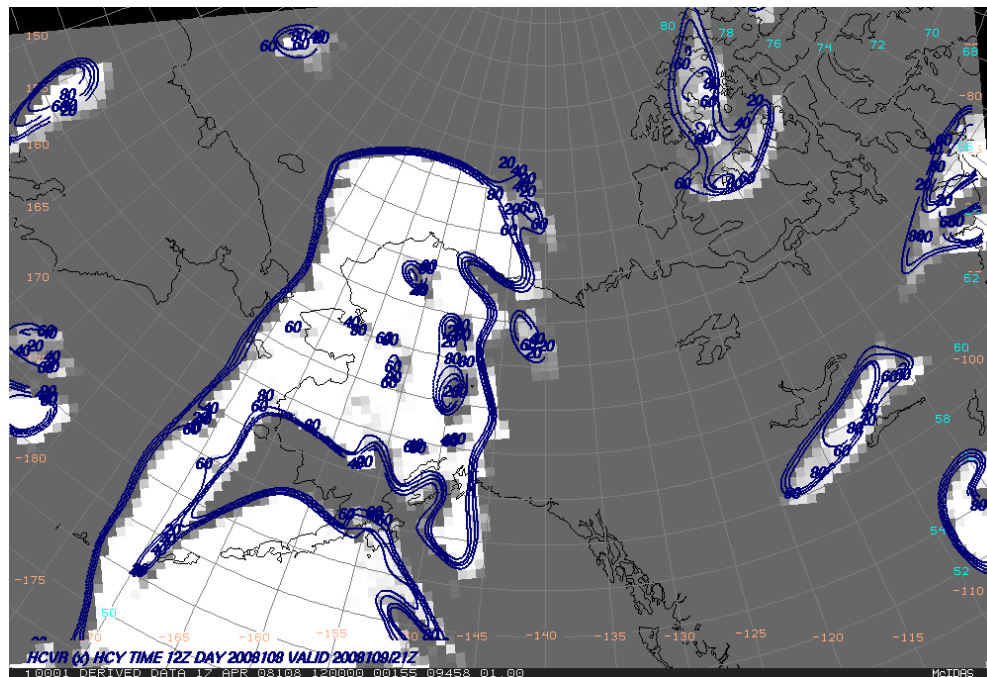


Mid-level cloud

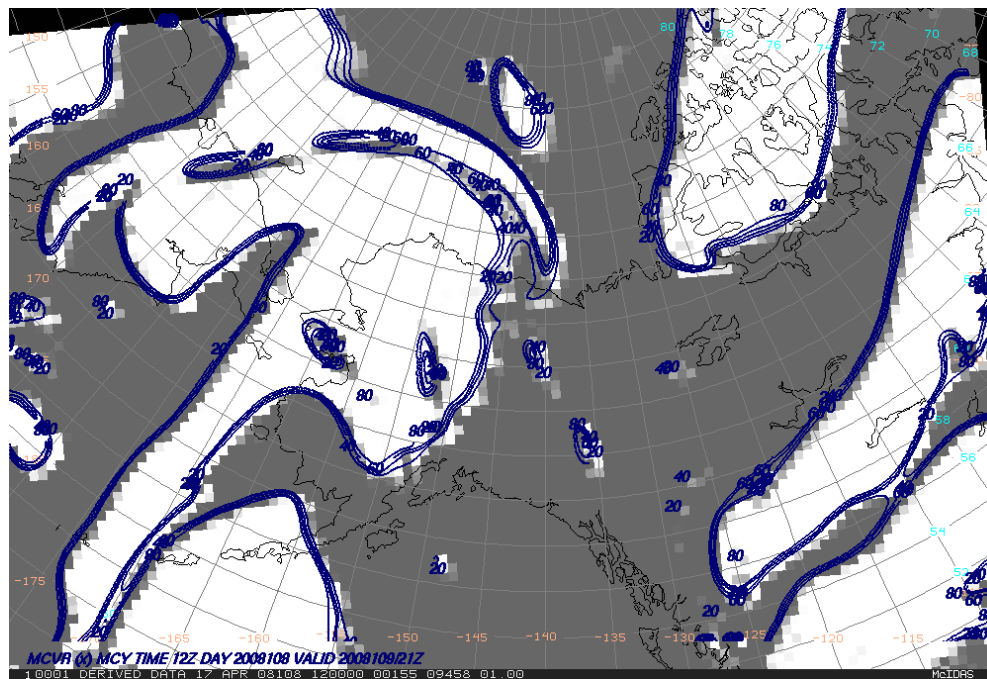


1:00 PM local
Friday

High-level cloud

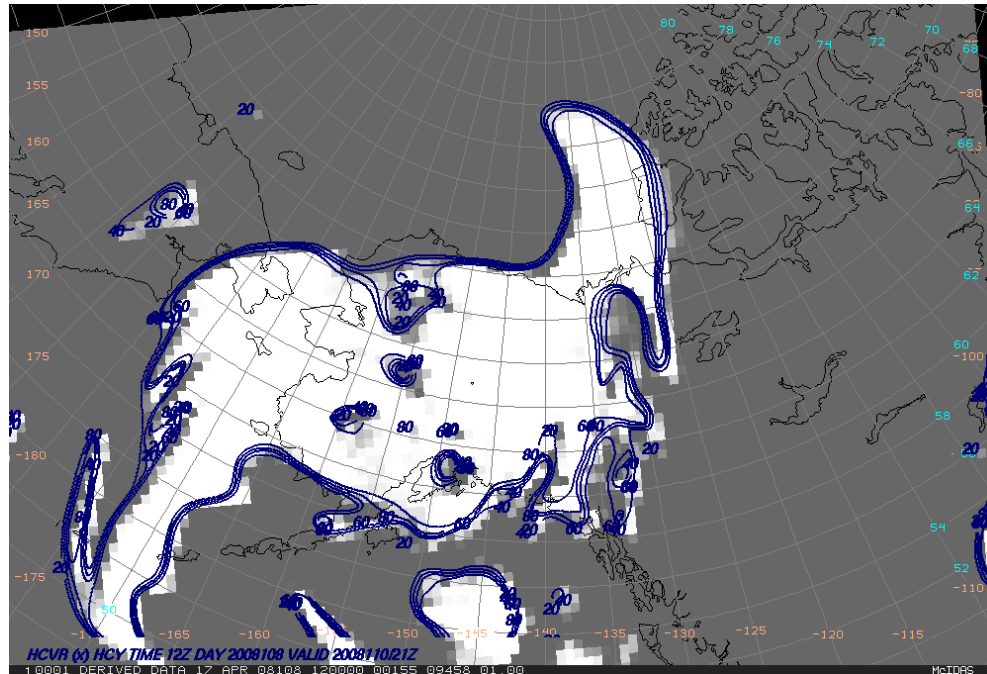


Mid-level cloud

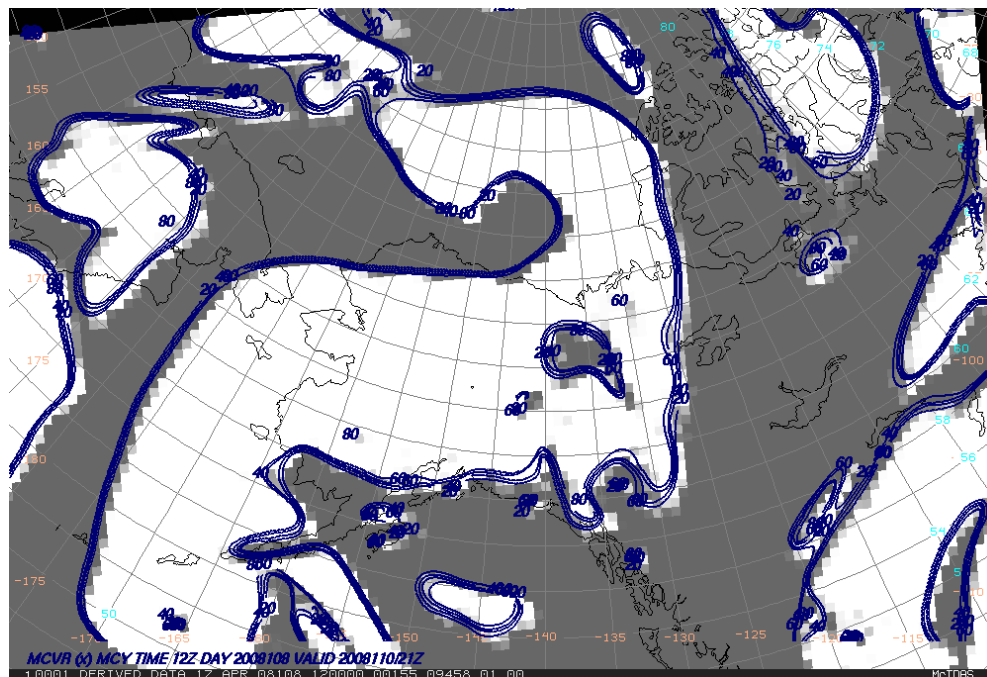


1:00 PM local
Saturday

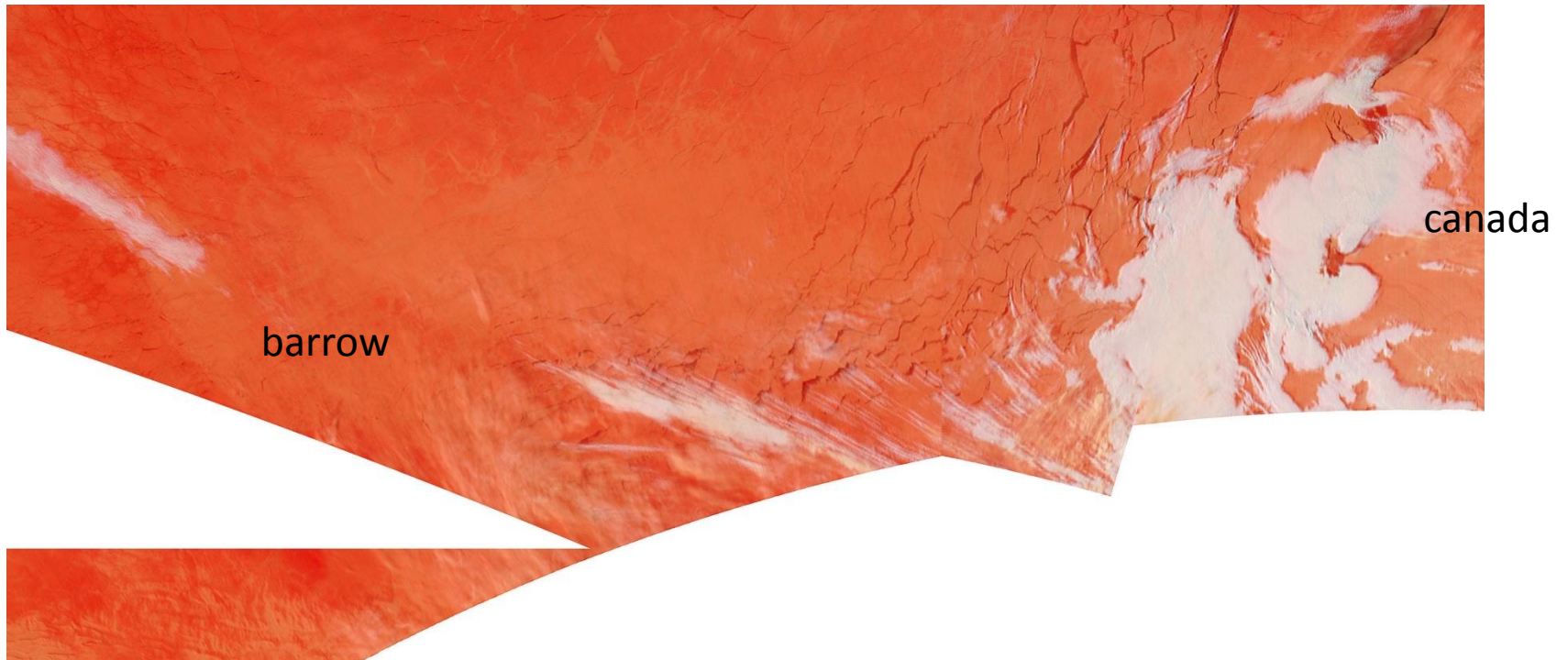
High-level cloud



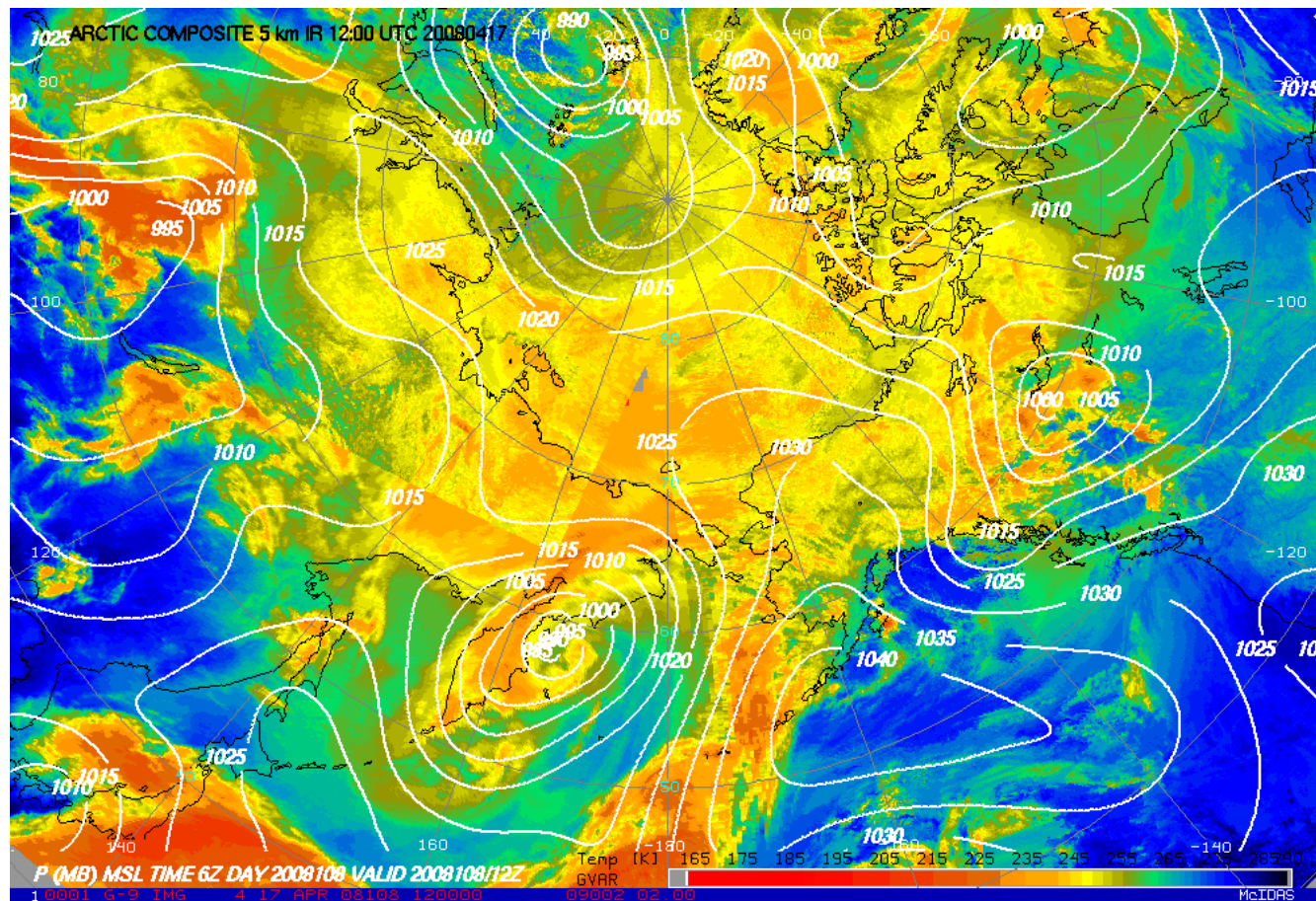
Mid-level cloud



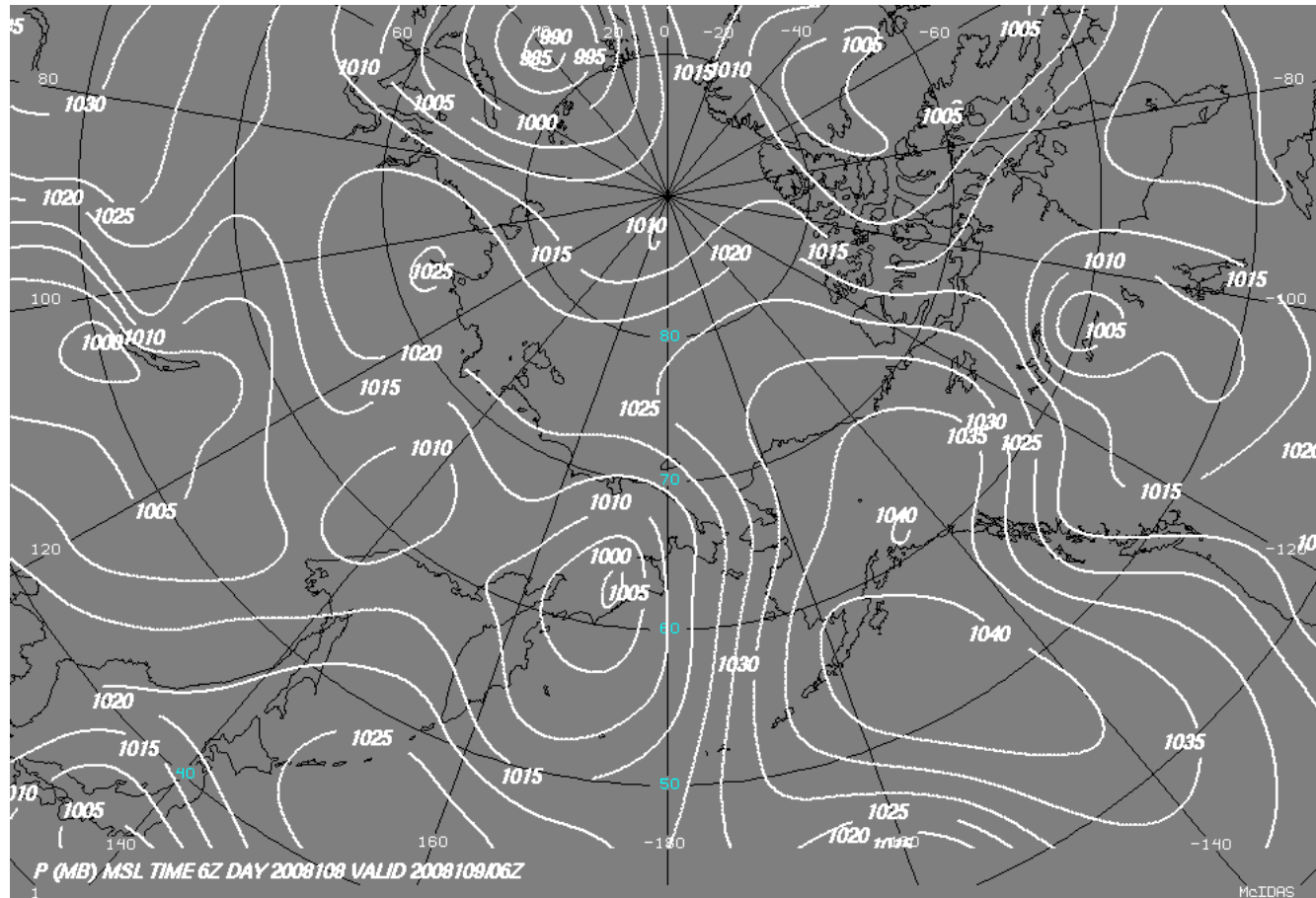
Yesterday, 4pm



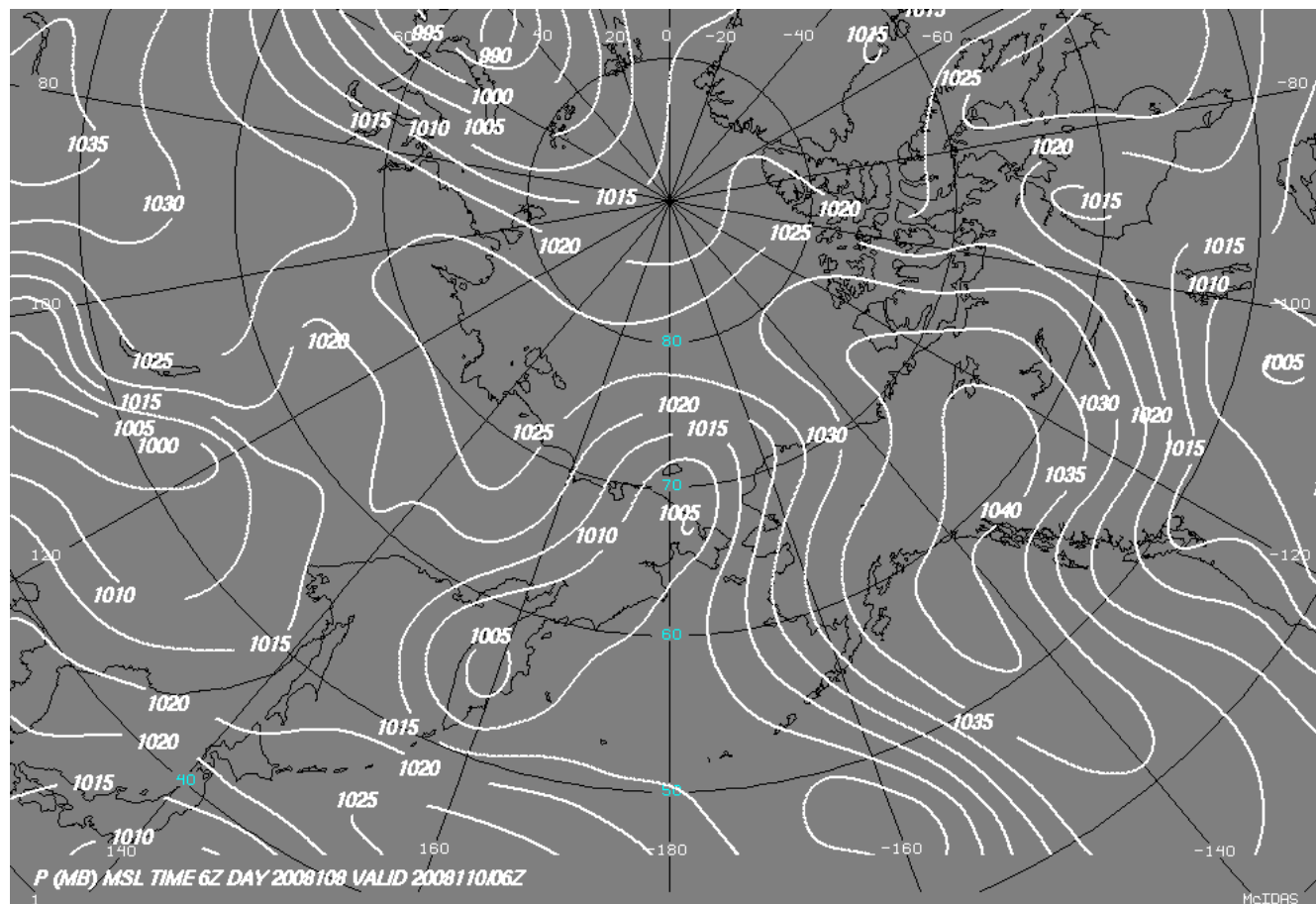
Today 4am, surf. pressure



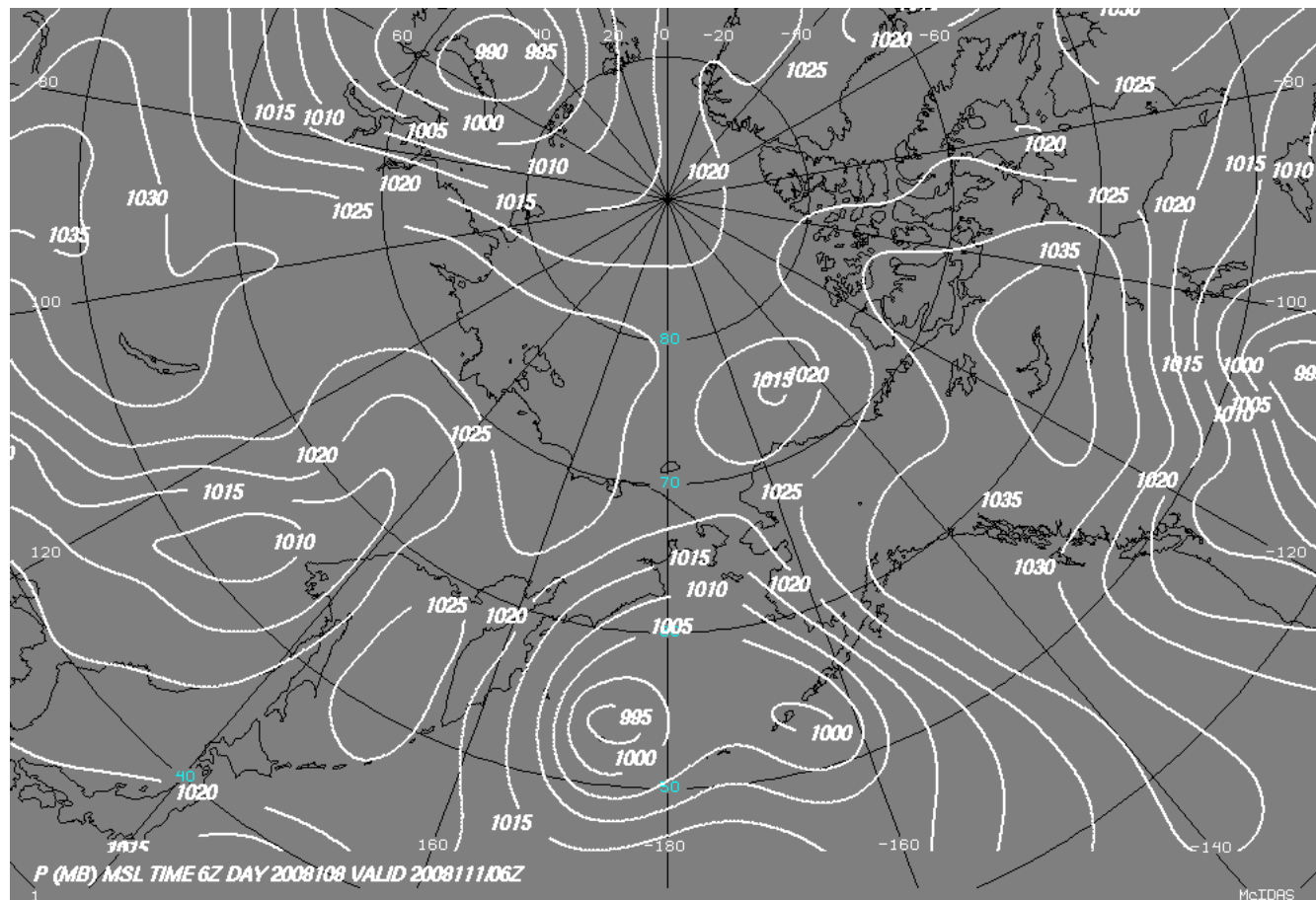
Tomorrow 4am, surf. pressure



Sat. 4am, surf pressure



Sun. 4am, surf pressure



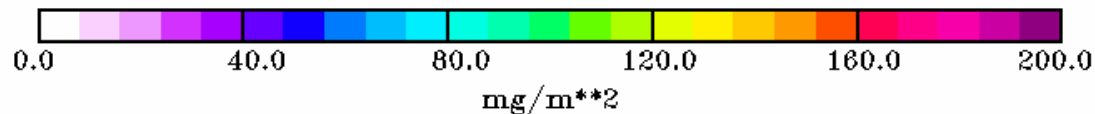
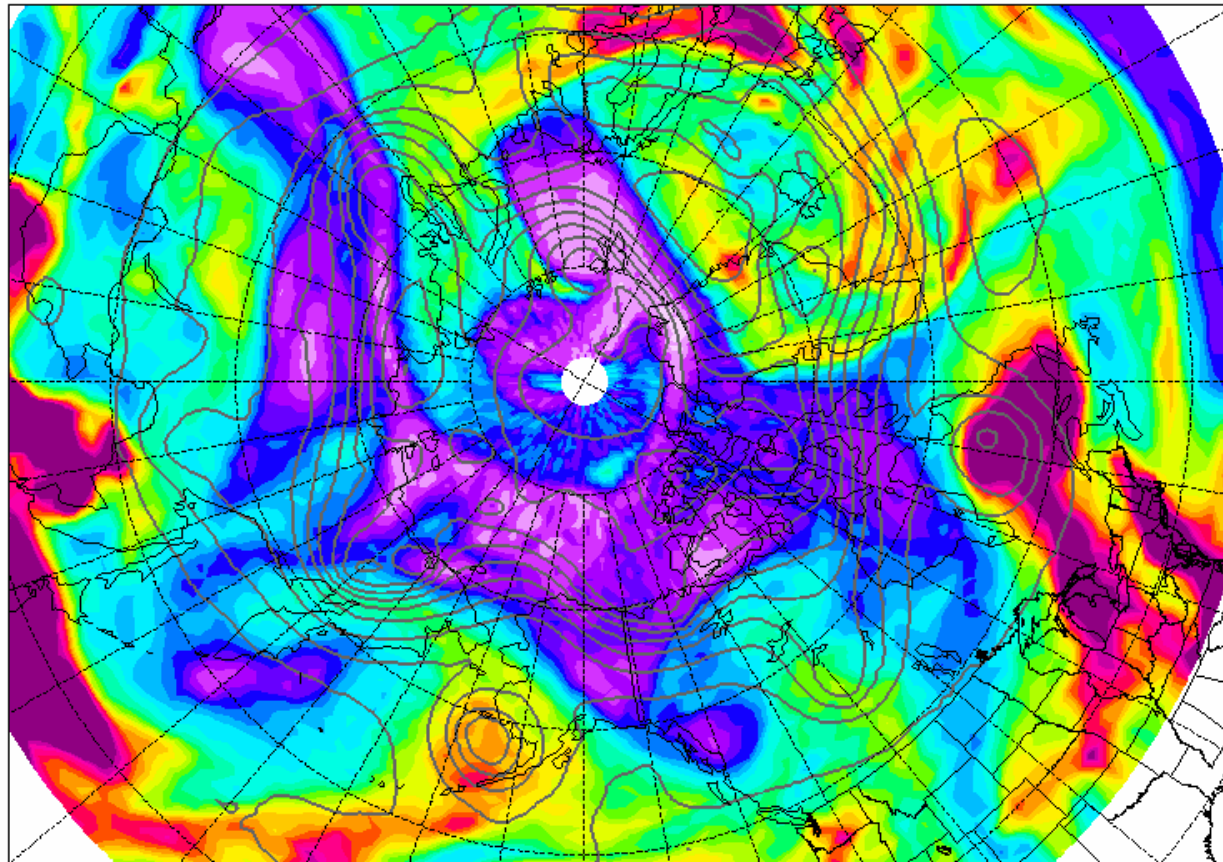
Today-> Monday. Anthro CO

TOTAL COLUMN OF SUM-CO FOR AGE CLASS 0 - 20 DAYS
AND GEOPOTENTIAL HEIGHT CONTOURS AT 500 hPa

BASED ON GFS ANALYSIS

ANALYSIS 20080417 60000 UTC ACTUAL 20080417 90000 UTC

MAXIMUM VALUE: 0.595E+03



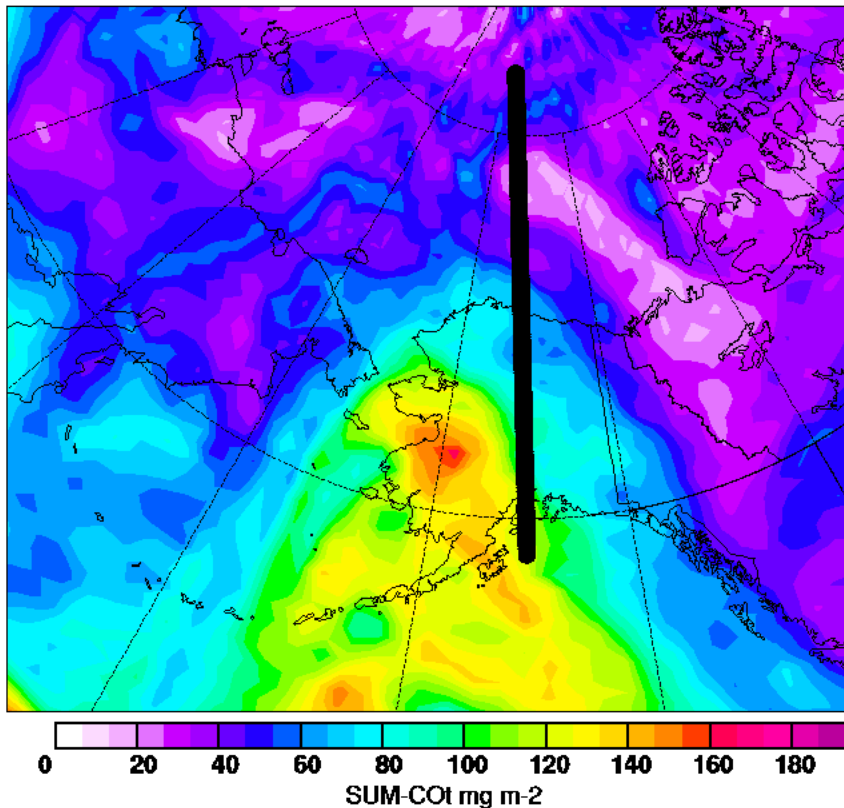
Fri. to Sun.: anthropo CO.

Total column of species SUM-CO for age class 0 - 20.00 DAYS

Latest analysis time 20080417. 60000 Actual time 20080418.190000

Mean value 0.901E+02 Maximum value 0.886E+03 Minimum value 0.9

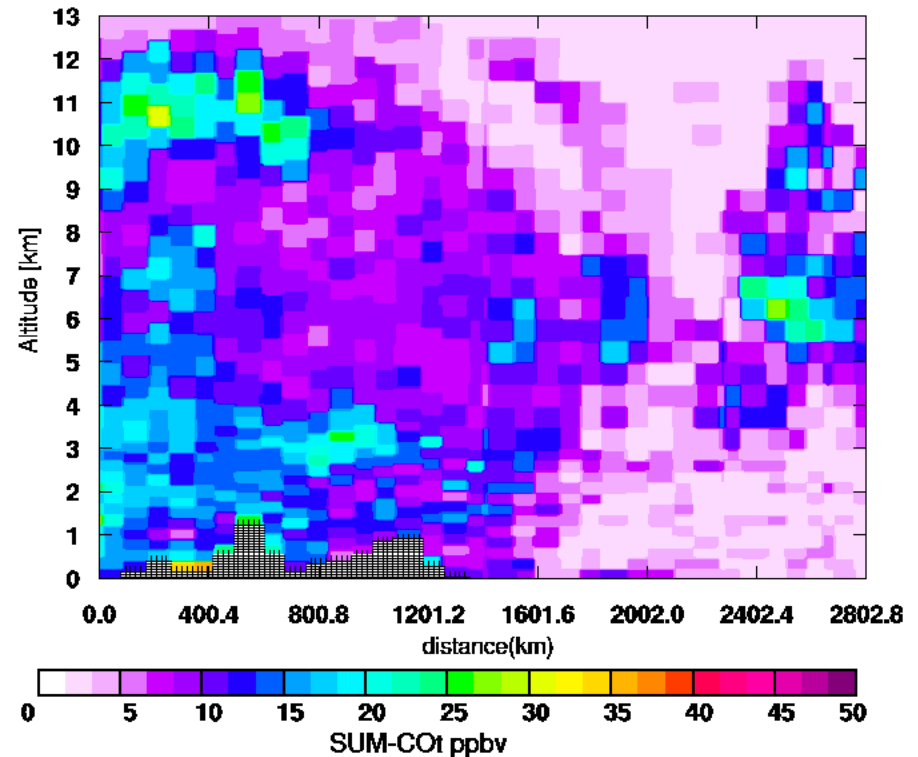
Distance of grid lines 20.0 deg



CROSS SECTION FROM 58 TO 83 LATITUDE AND -150 TO -157 LONGITUDE

NA-CO_t MIXING RATIO FOR AGE CLASS 0 - 20.00 DAYS

LATEST ANALYSIS 20080417 60000 UTC ACTUAL TIME 20080418 19



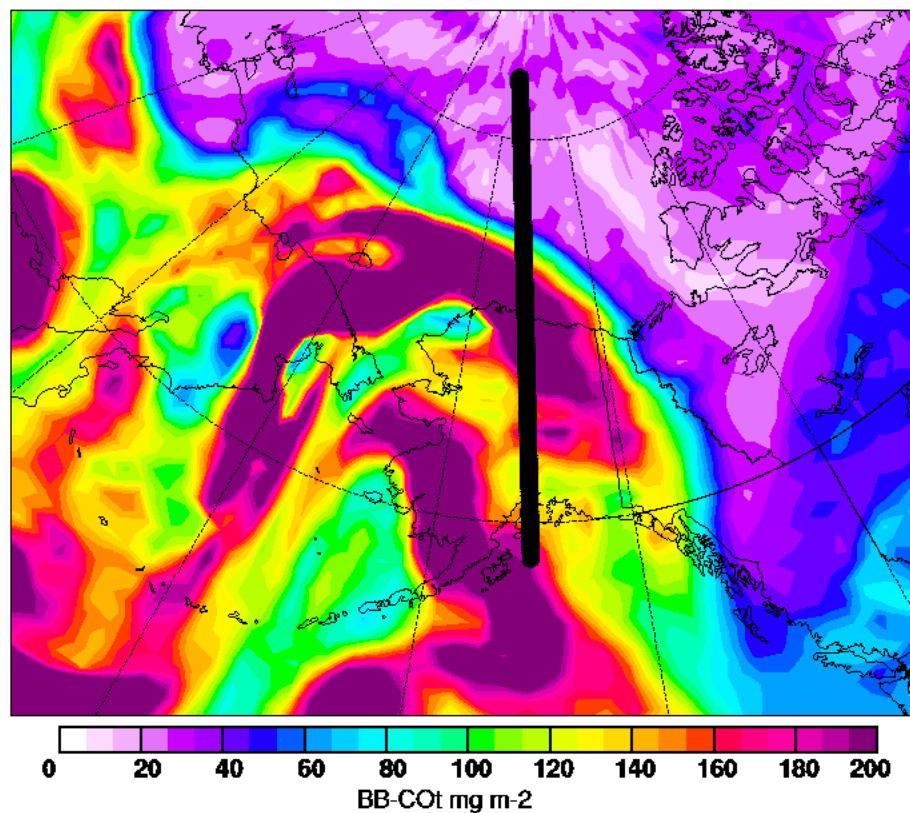
Fri. to Sun.:Biomass Burning CO

Total column of species BB-COt for age class 0 - 20.00 DAYS

Latest analysis time 20080417. 60000 Actual time 20080418.190000

Mean value 0.878E+02 Maximum value 0.388E+04 Minimum value 0.406E+01

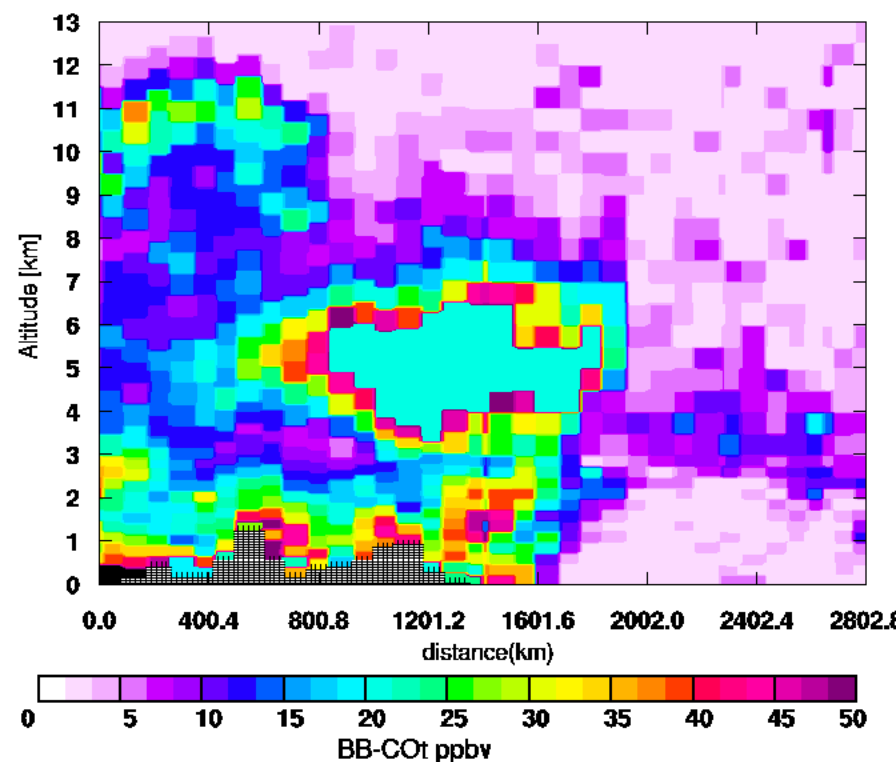
Distance of grid lines 20.0 deg



CROSS SECTION FROM 58 TO 83 LATITUDE AND -150 TO -157 LONGITUDE

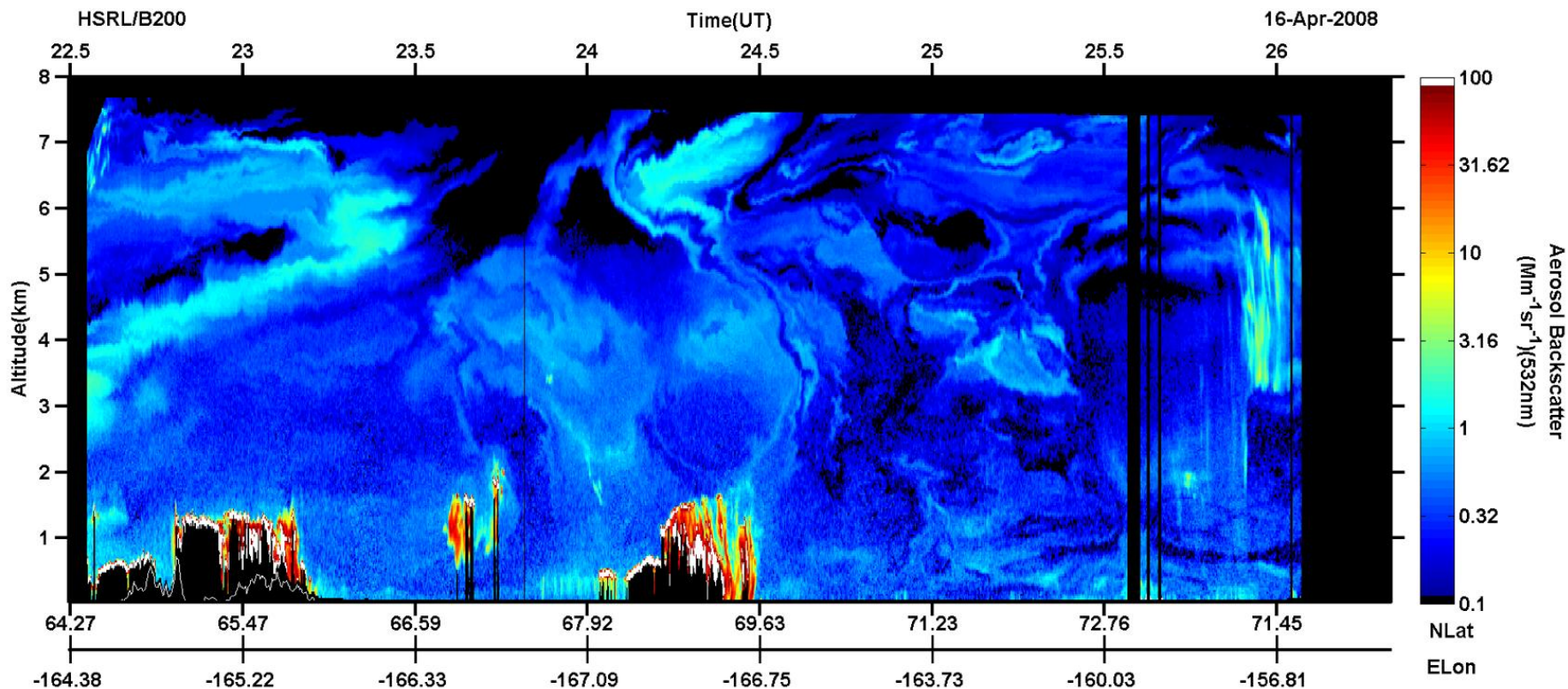
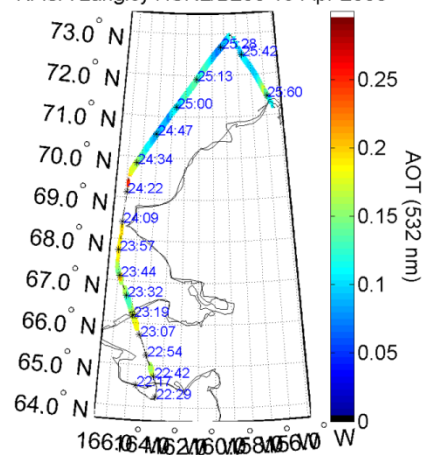
BB-COt MIXING RATIO FOR AGE CLASS 0 - 20.00 DAYS

LATEST ANALYSIS 20080417 60000 UTC ACTUAL TIME 20080418 19

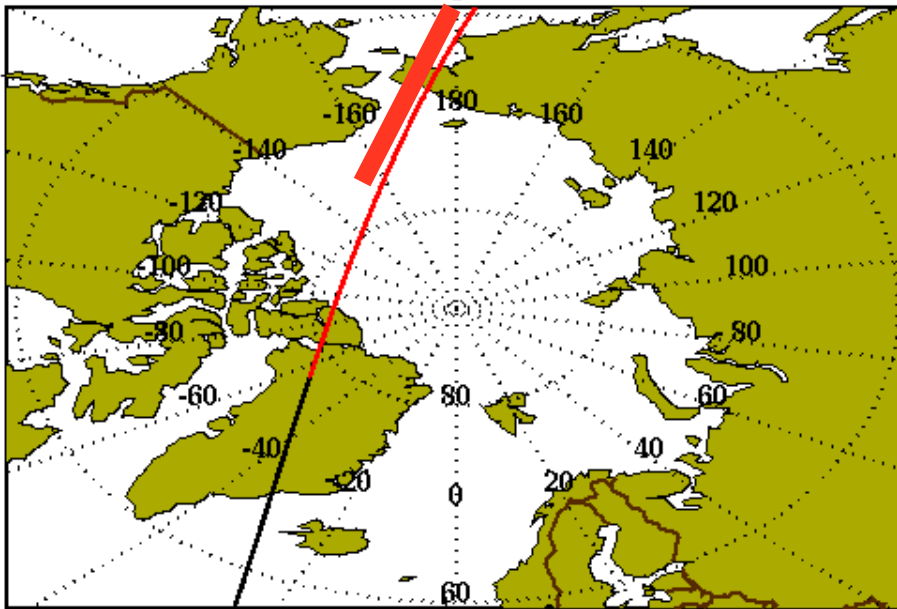


NASA Langley HSRL/B200 16-Apr-2008

HSRL B-200 16 April Leg 2

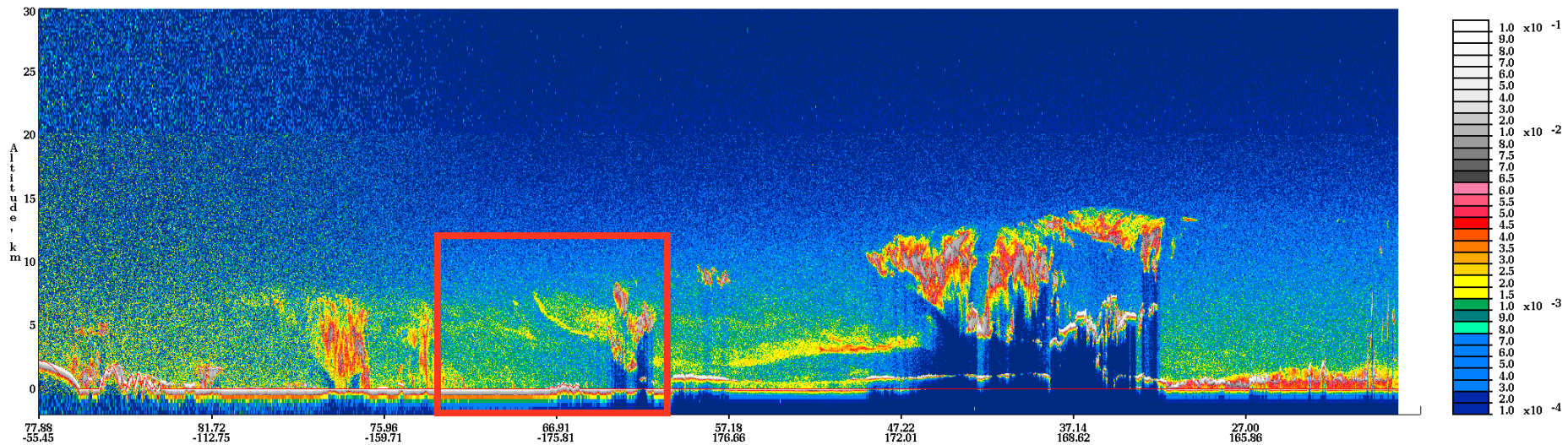


2008-04-15 13-30-00 UTC Half of Hour Conditions
Version: 2.01 Image Date: 04/16/2008

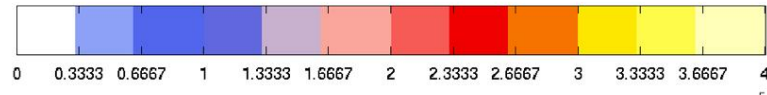
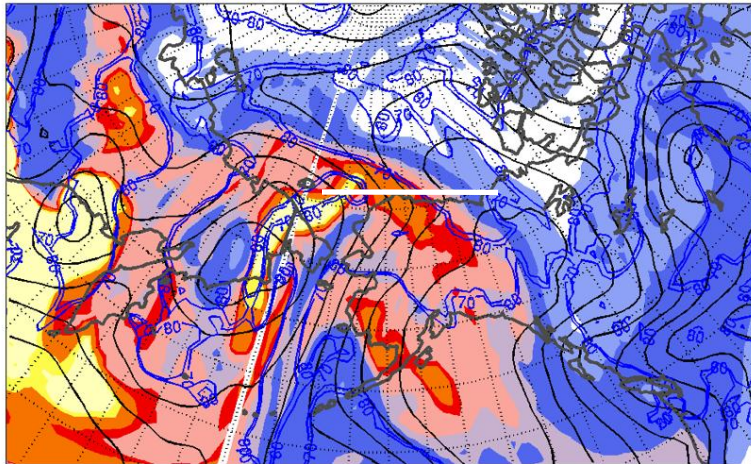


532 nm Total Attenuated Backscatter, /km /sr Begin UTC: 2008-04-15 14:37:47.9932 End UTC: 2008-04-15 14:59:59.6742

Version: 2.01 Image Date: 04/16/2008



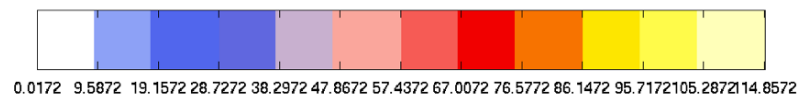
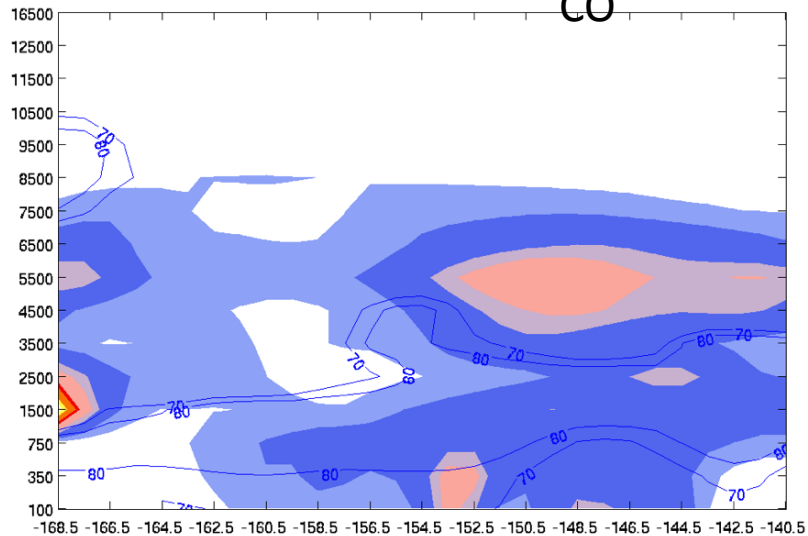
BB-CO on 18 UTC 2008-04-18 at level Total column



Biomass burning CO Friday, 18 April

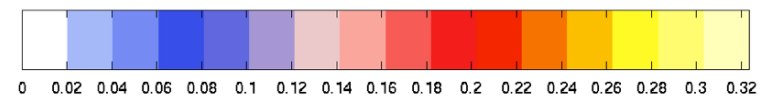
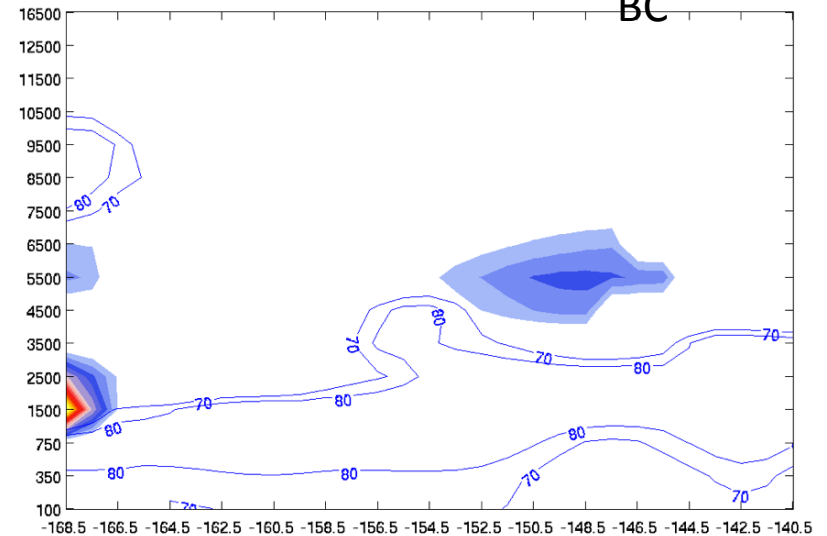
BB-CO on 21 UTC 2008-04-18 at lat 70.56

CO

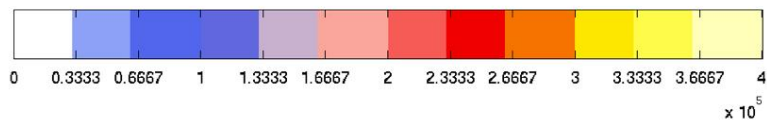
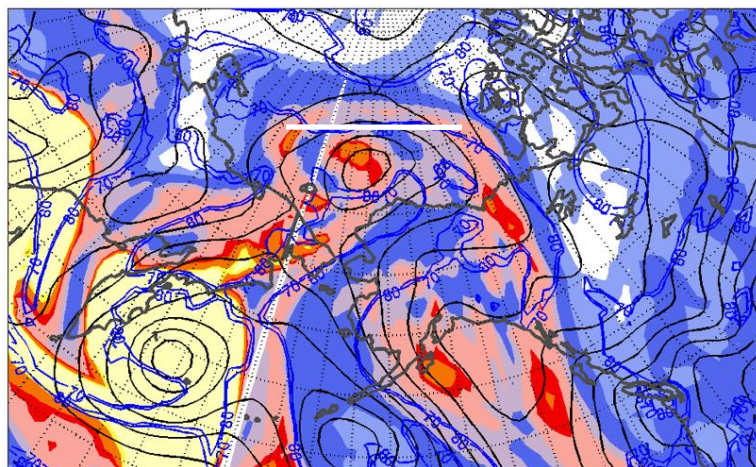


BB-BC on 21 UTC 2008-04-18 at lat 70.50

BC

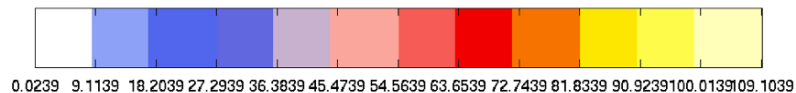
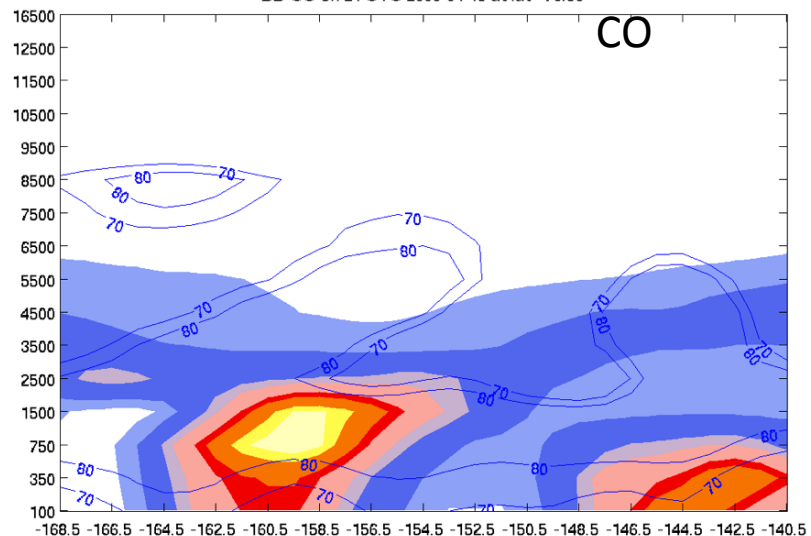


BB-CO on 21 UTC 2008-04-19 at level Total column

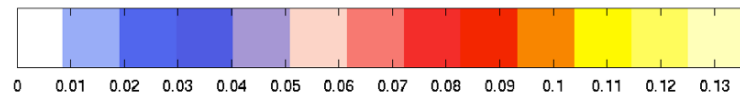
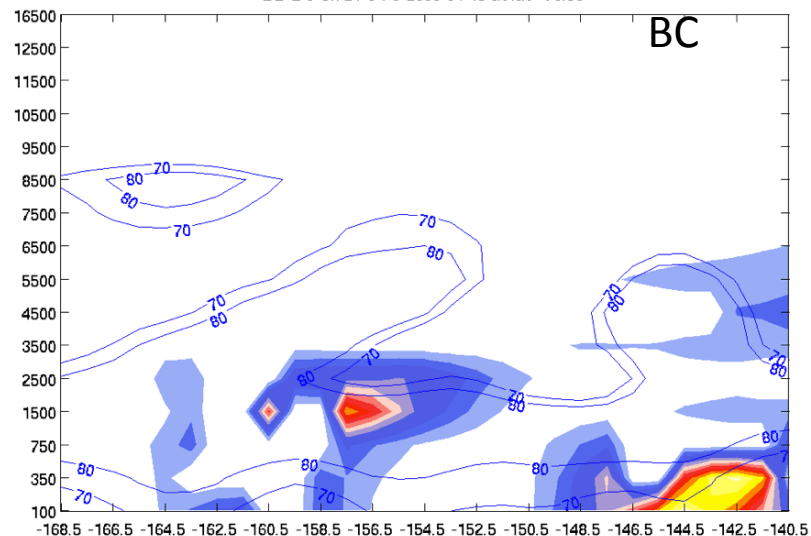


Biomass burning CO Saturday, 19 April

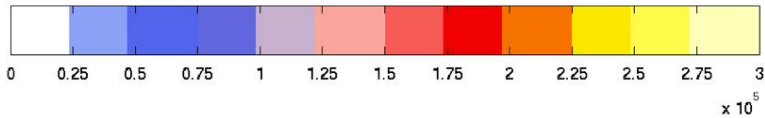
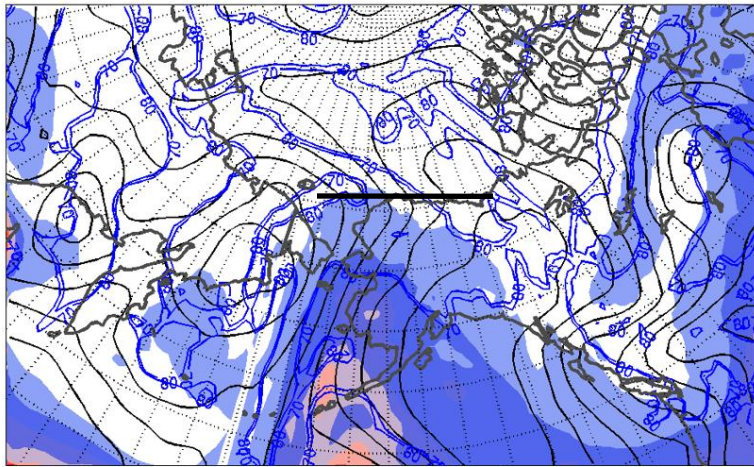
BB-CO on 21 UTC 2008-04-19 at lat 70.50



BB-BC on 21 UTC 2008-04-19 at lat 70.50

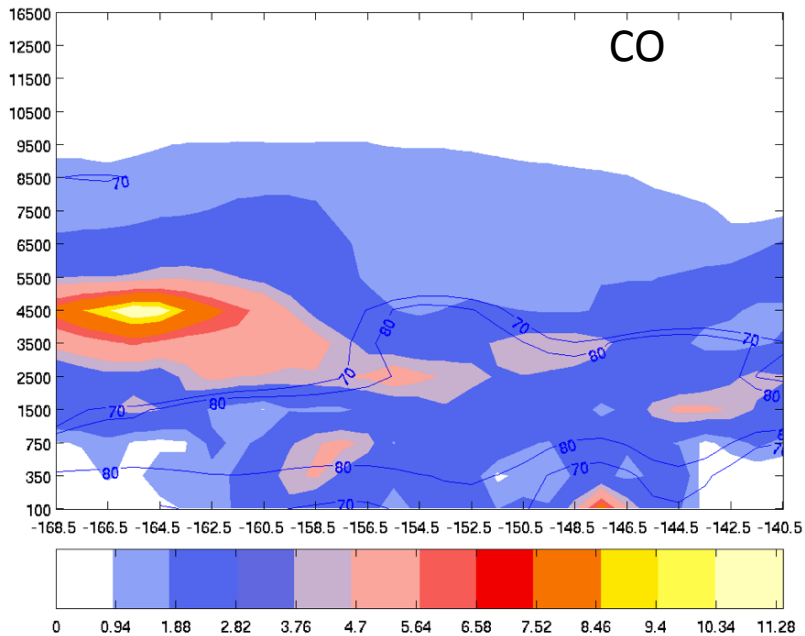


AS-CO on 18 UTC 2008-04-18 at level Total column

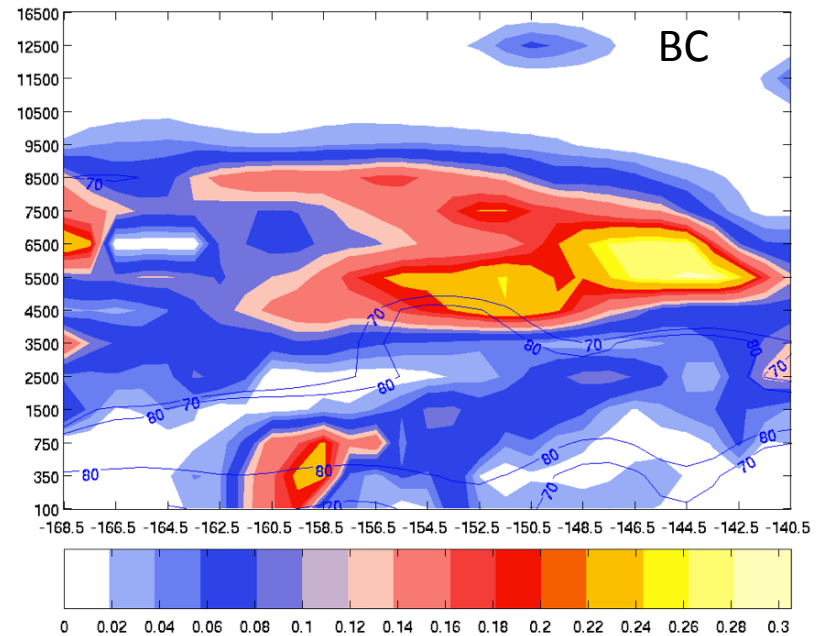


Asian tracers Friday, 18 April

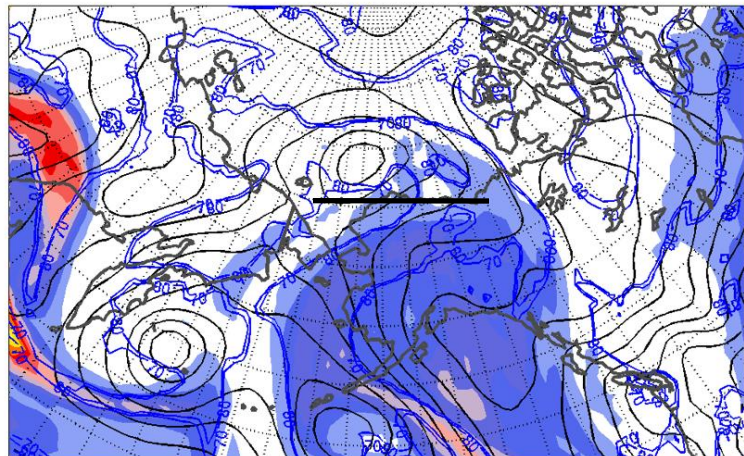
AS-CO on 18 UTC 2008-04-18 at lat 70.50



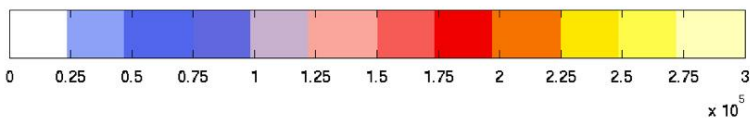
AS-SO4 on 18 UTC 2008-04-18 at lat 70.50



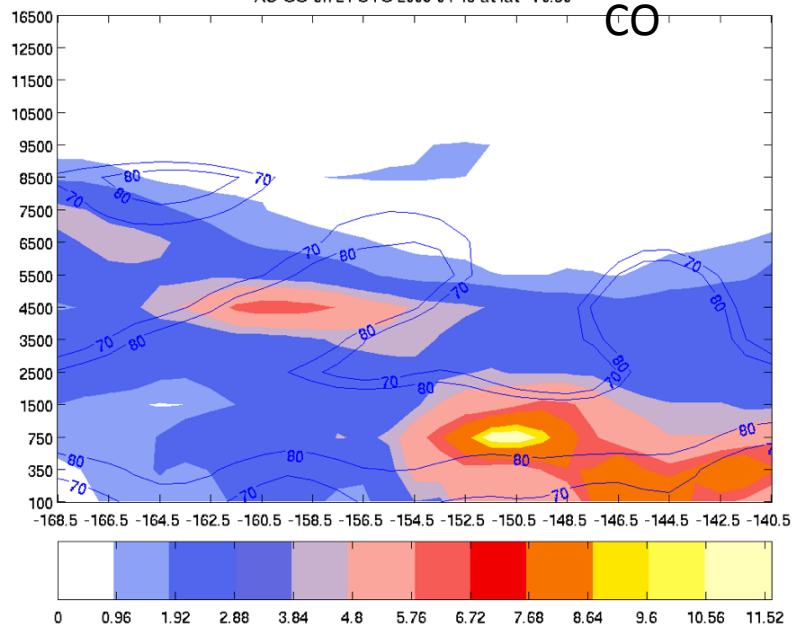
AS-CO on 21 UTC 2008-04-19 at level Total column



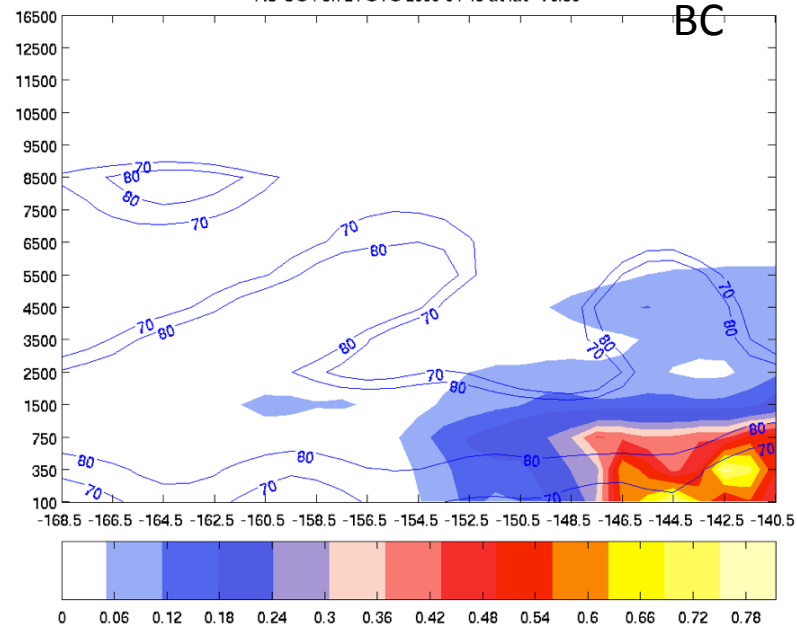
Asian tracers Saturday, 19 April



AS-CO on 21 UTC 2008-04-19 at lat 70.50



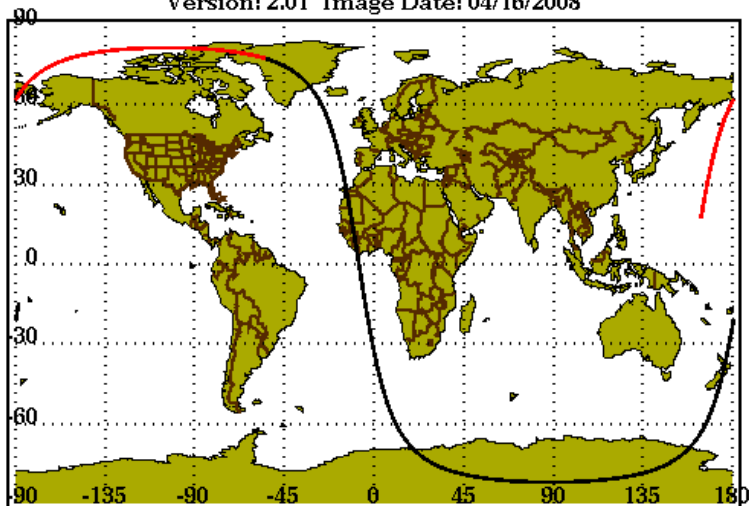
AS-SO4 on 21 UTC 2008-04-19 at lat 70.50



RAQMS Fairbanks Local FX Discussion:

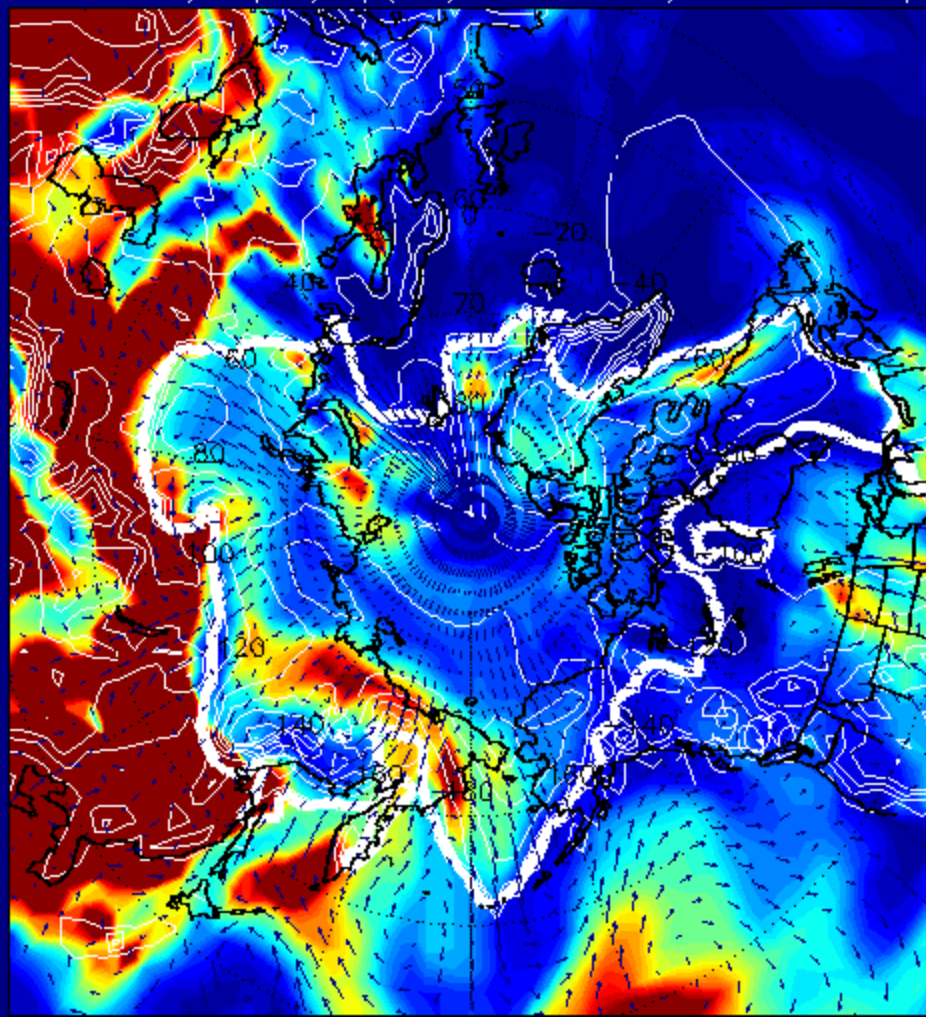
**00Z 04/18-00Z 04/21
Initialized 12Z 04/16**

2008-04-15 13-30-00 UTC Half of Hour Conditions
Version: 2.01 Image Date: 04/16/2008



270K BCOC 12Z 20080415

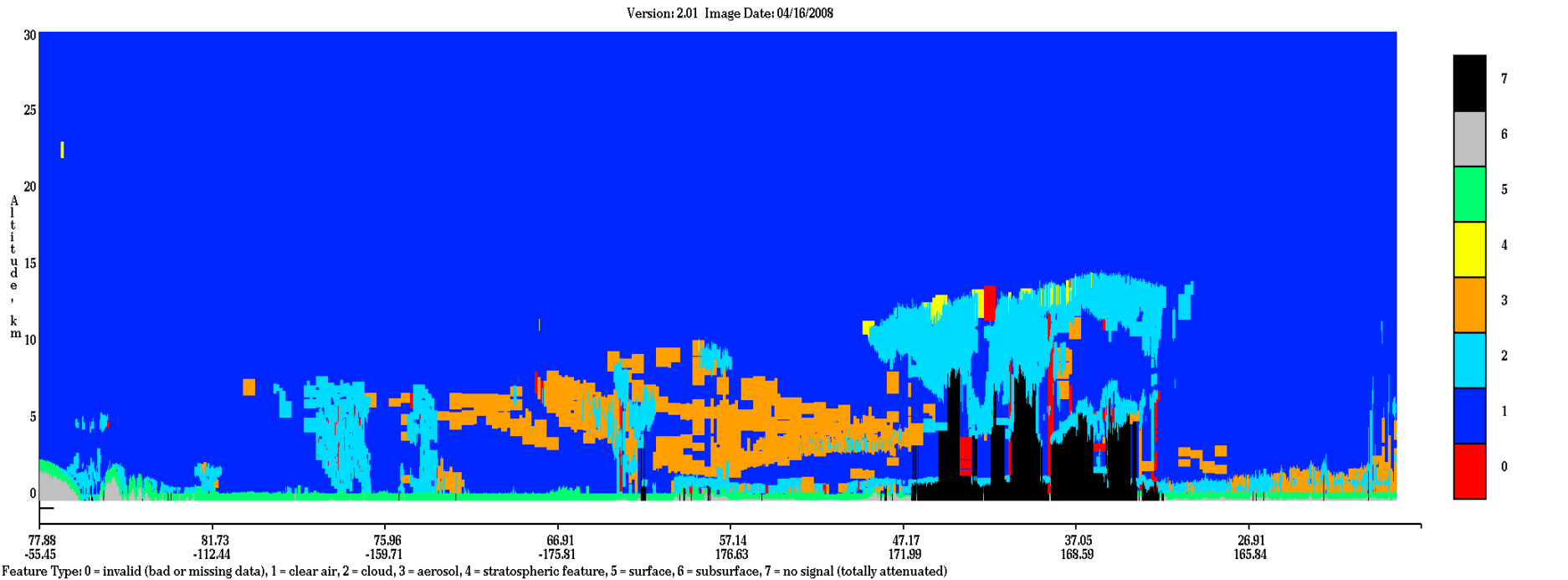
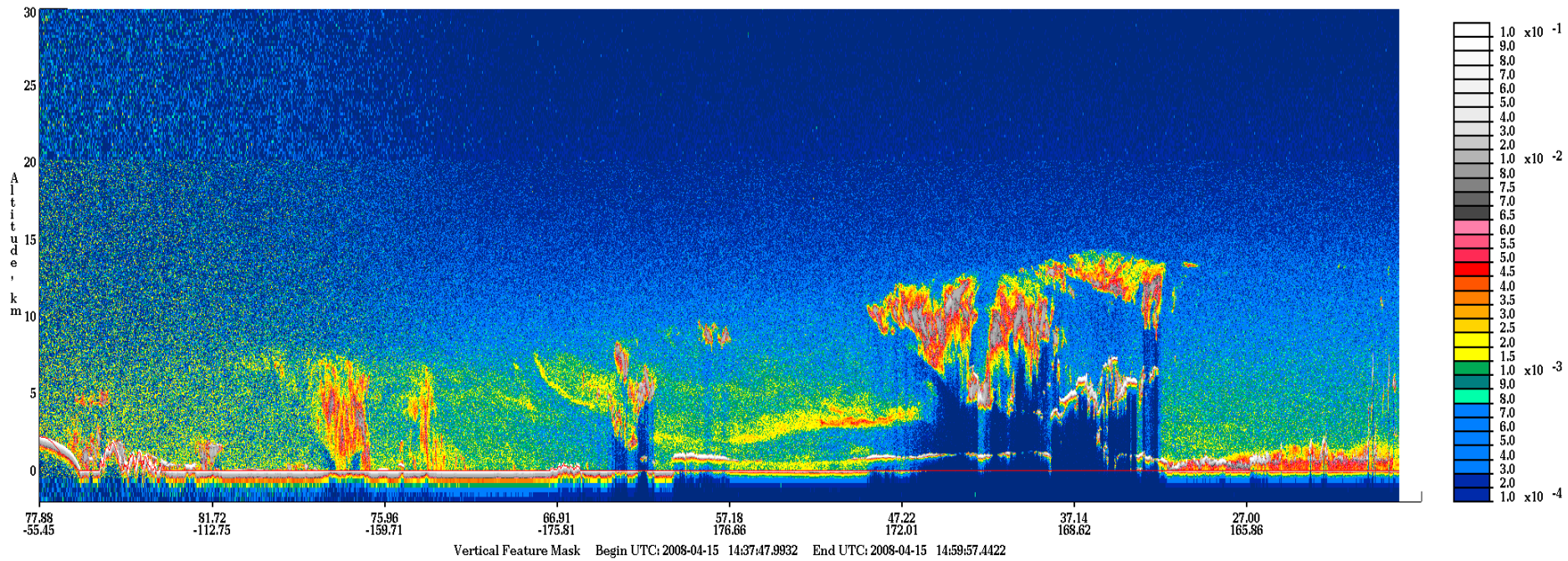
(Pressure Contoured/SFC (white) Trop (black) Intersection Dashed/95% Convective Precip=Red)



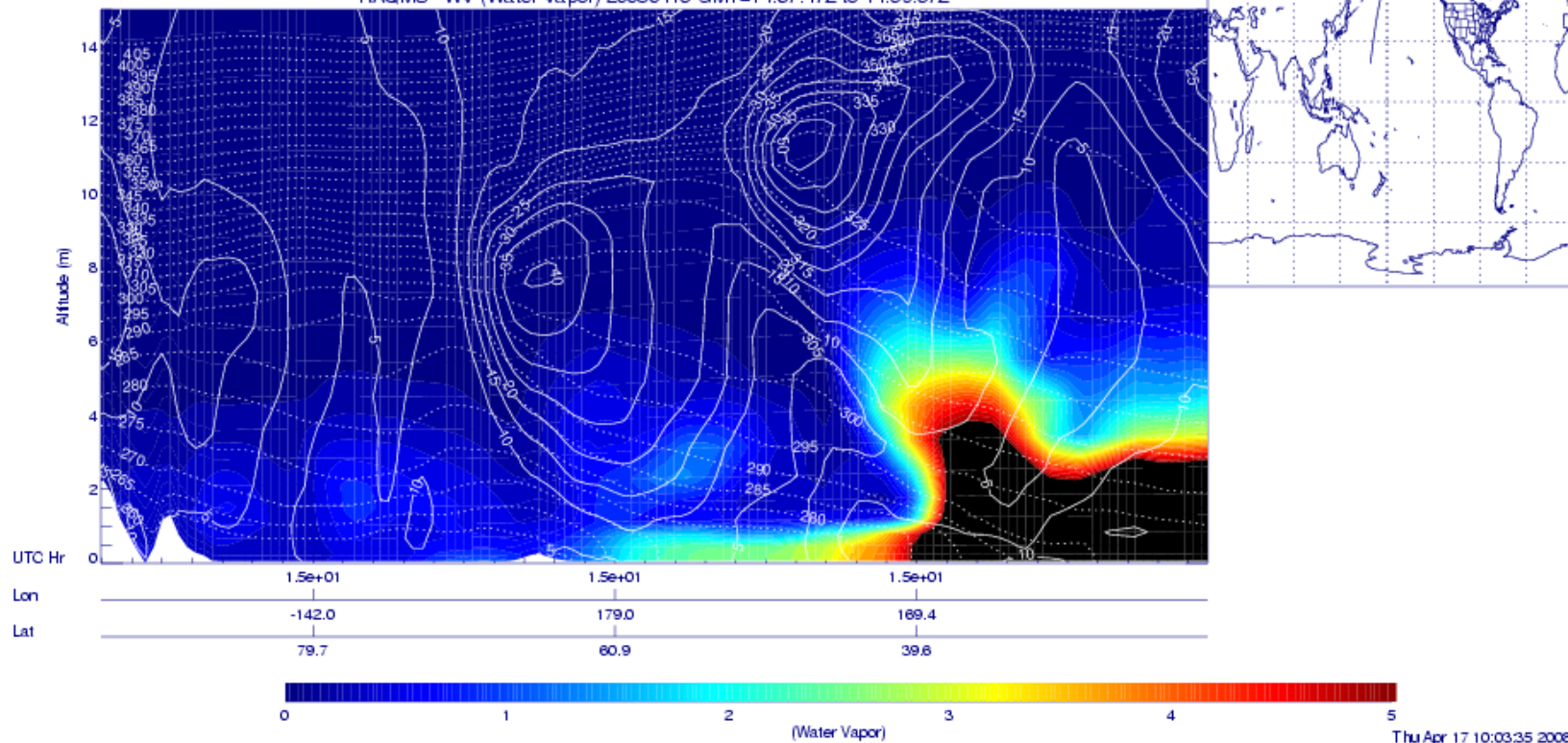
0 2 4 6 8 10
(ppbv)

RAQMS_G -24hr OMI ASSIM Initialized 12Z 20080415

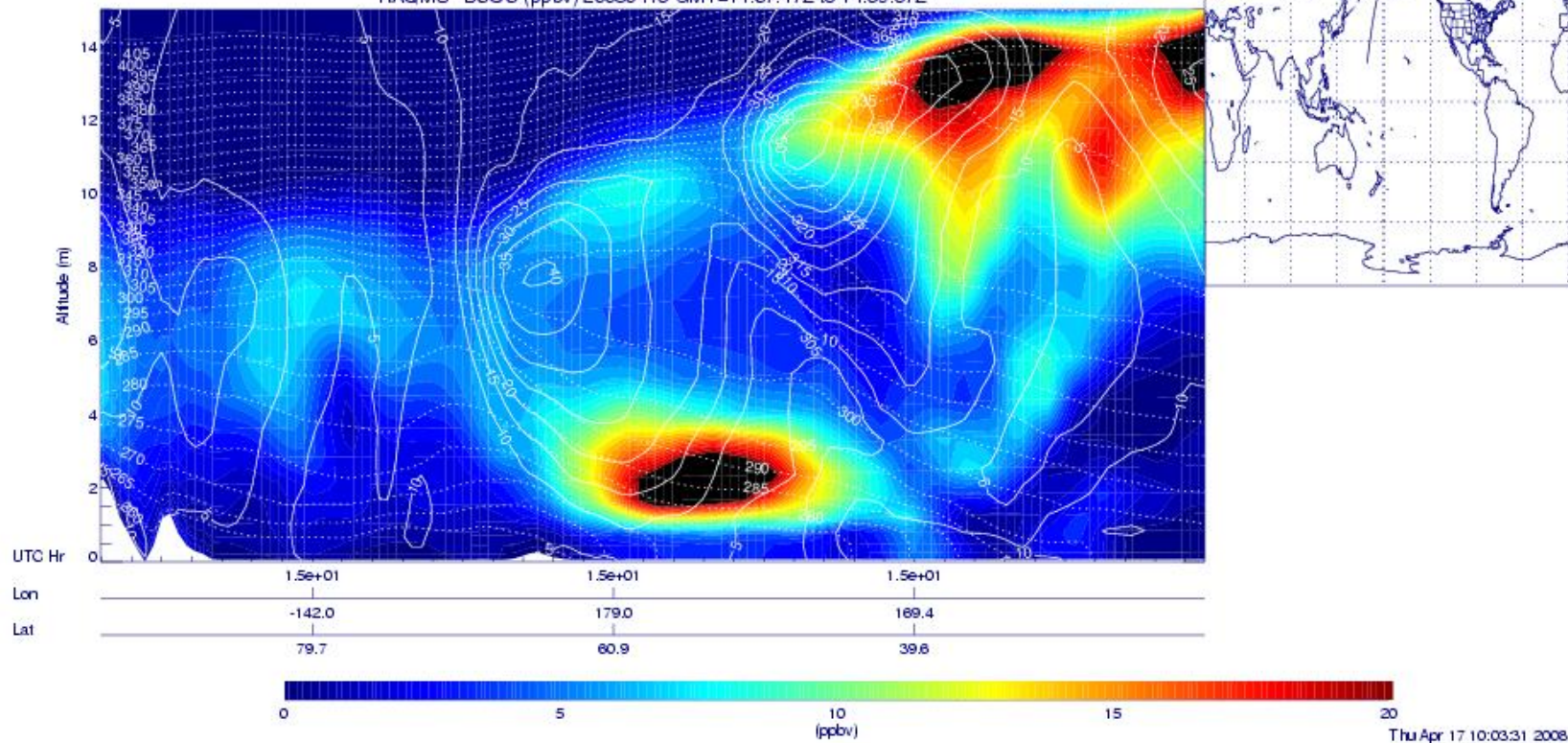
Version: 2.01 Image Date: 04/16/2008



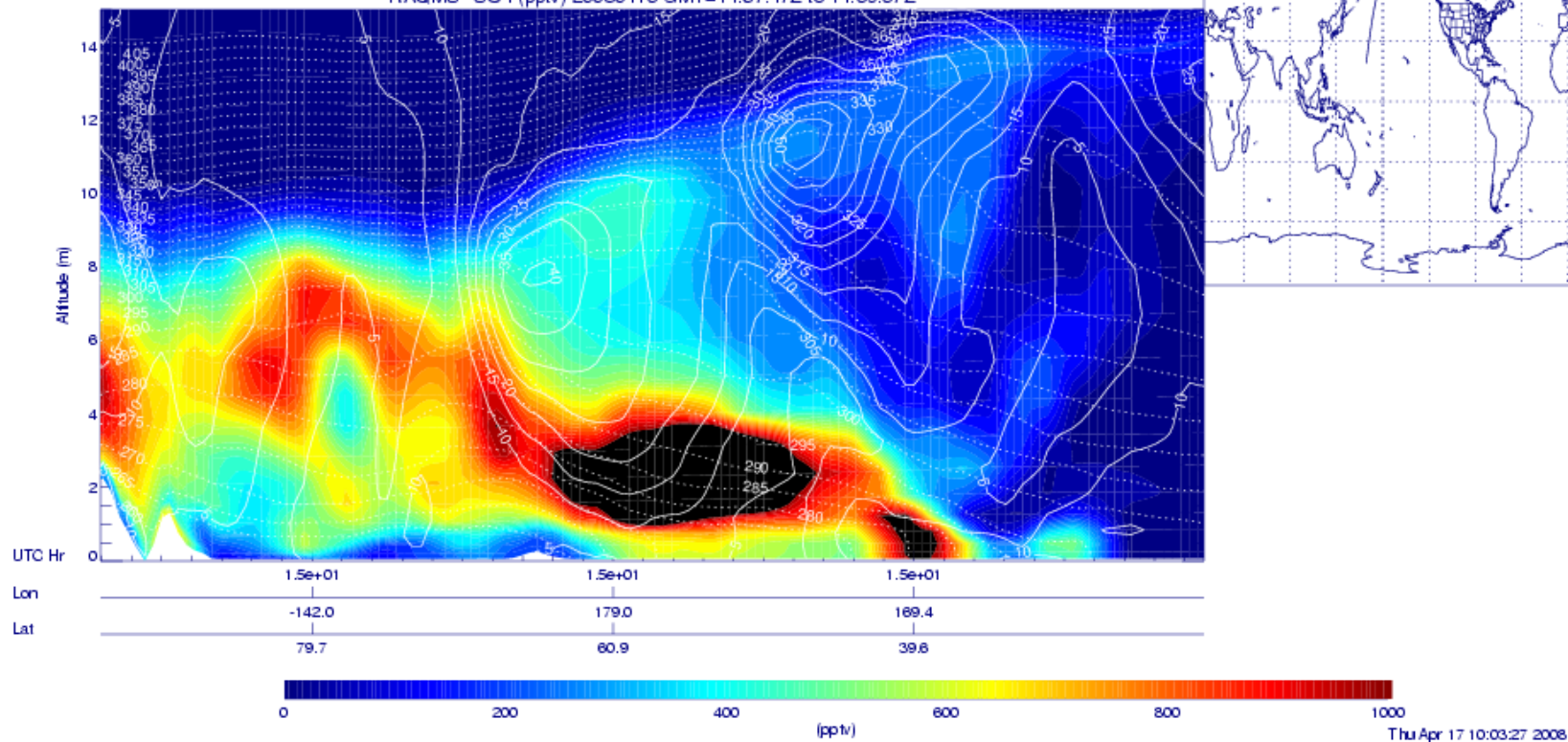
RAQMS ' WV (Water Vapor) 20080415 GMT=14:37:47Z to 14:59:57Z



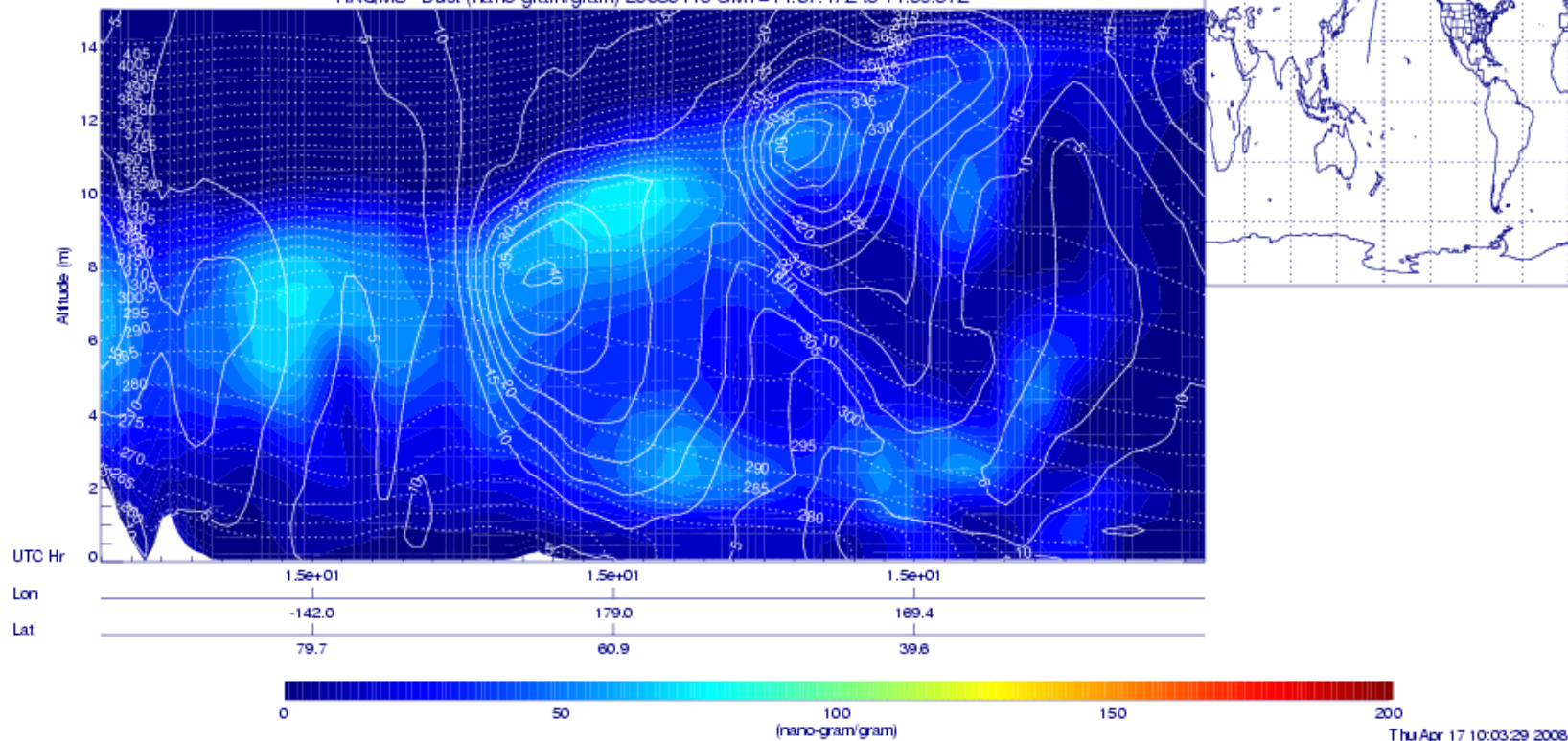
RAQMS ' BCOC (ppbv) 20080415 GMT=14:37:47Z to 14:59:57Z



RAQMS 'SO4 (pptv) 20080415 GMT=14:37:47Z to 14:59:57Z

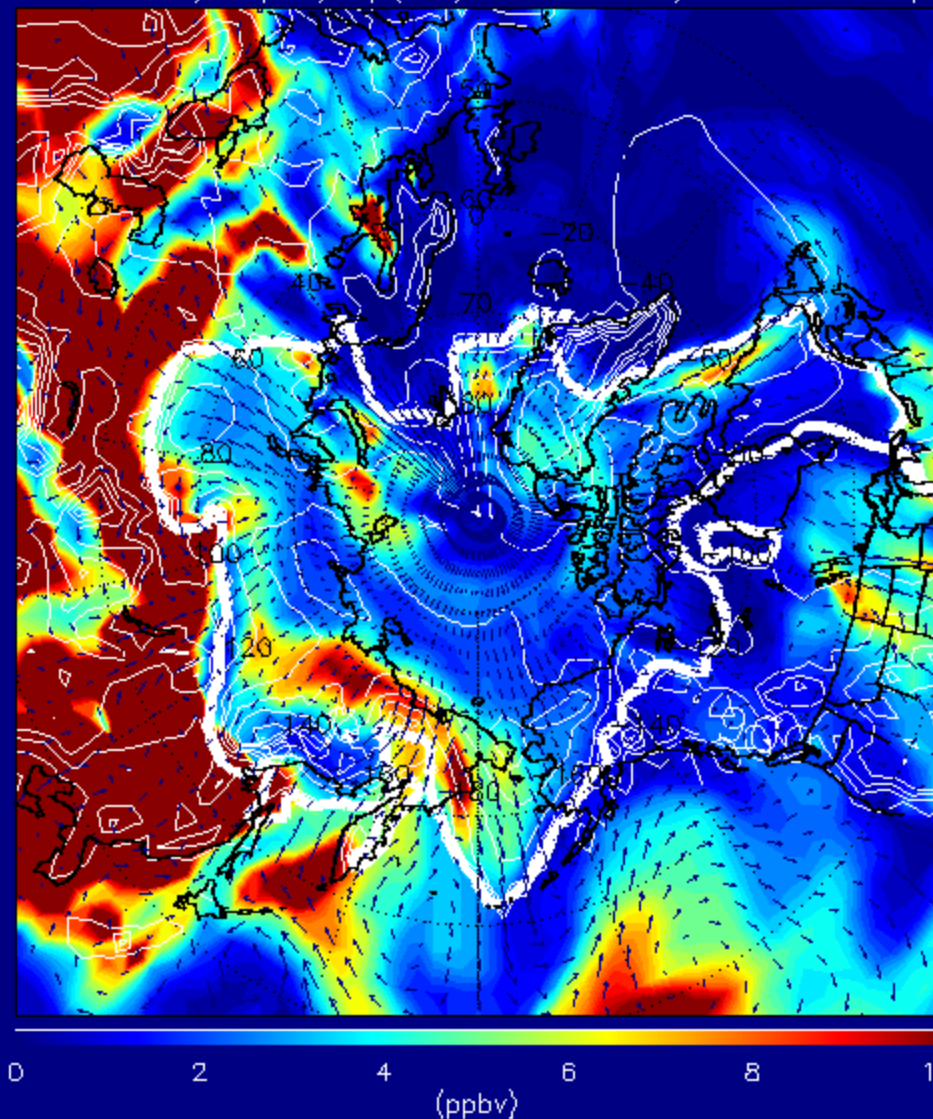


RAQMS ' Dust (nano-gram/gram) 20080415 GMT=14:37:47Z to 14:59:57Z



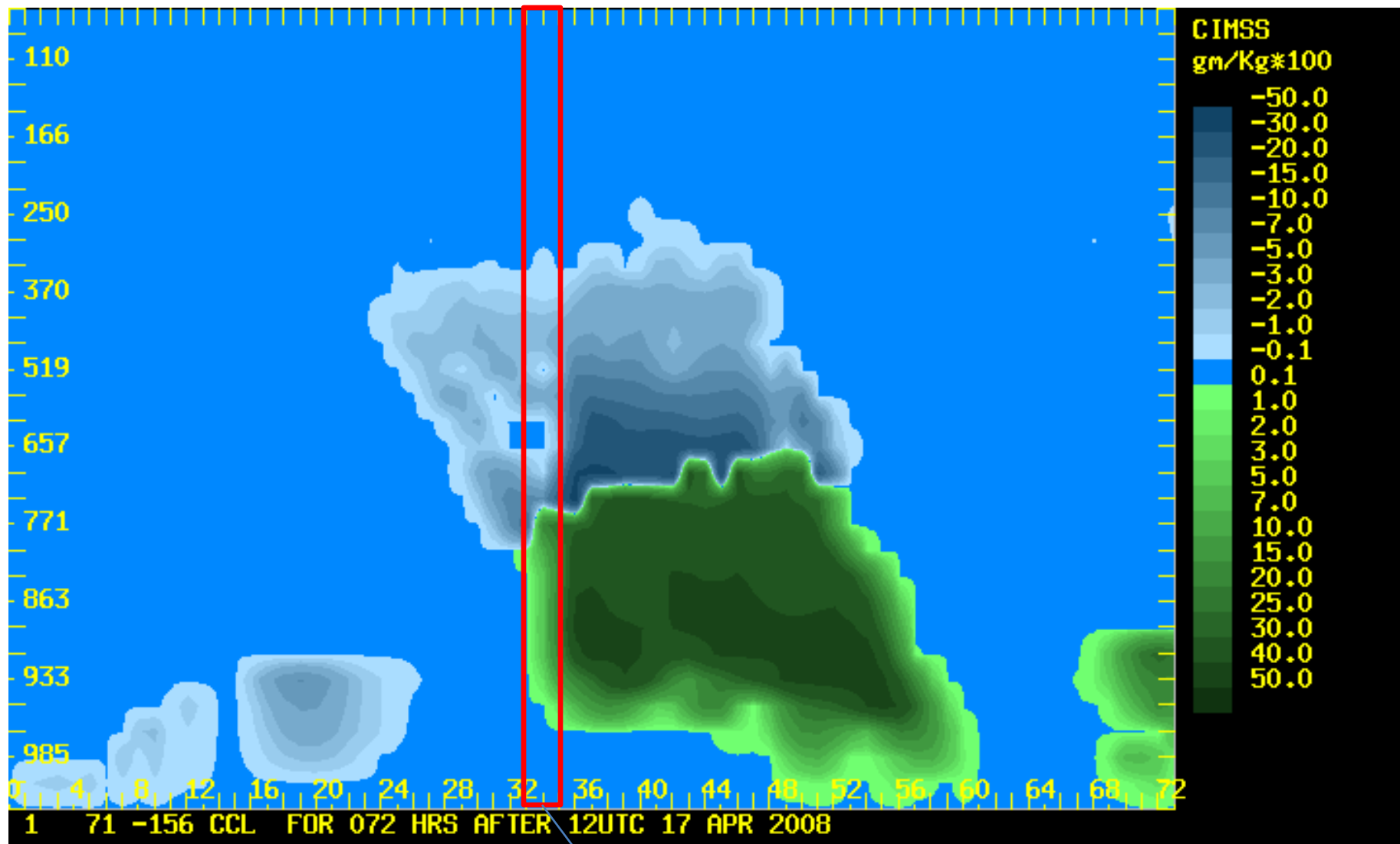
270K BCOC 12Z 20080415

(Pressure Contoured/SFC (white) Trop (black) Intersection Dashed/95% Convective Precip=Red)

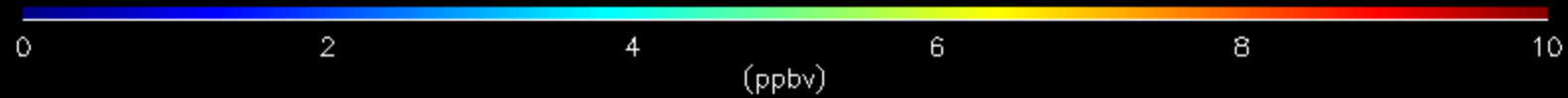


RAQMS_G -24hr OMI ASSIM Initialized 12Z 20080415

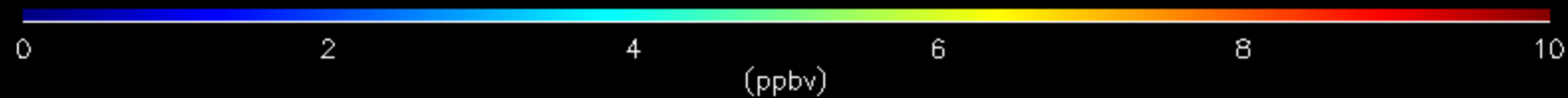
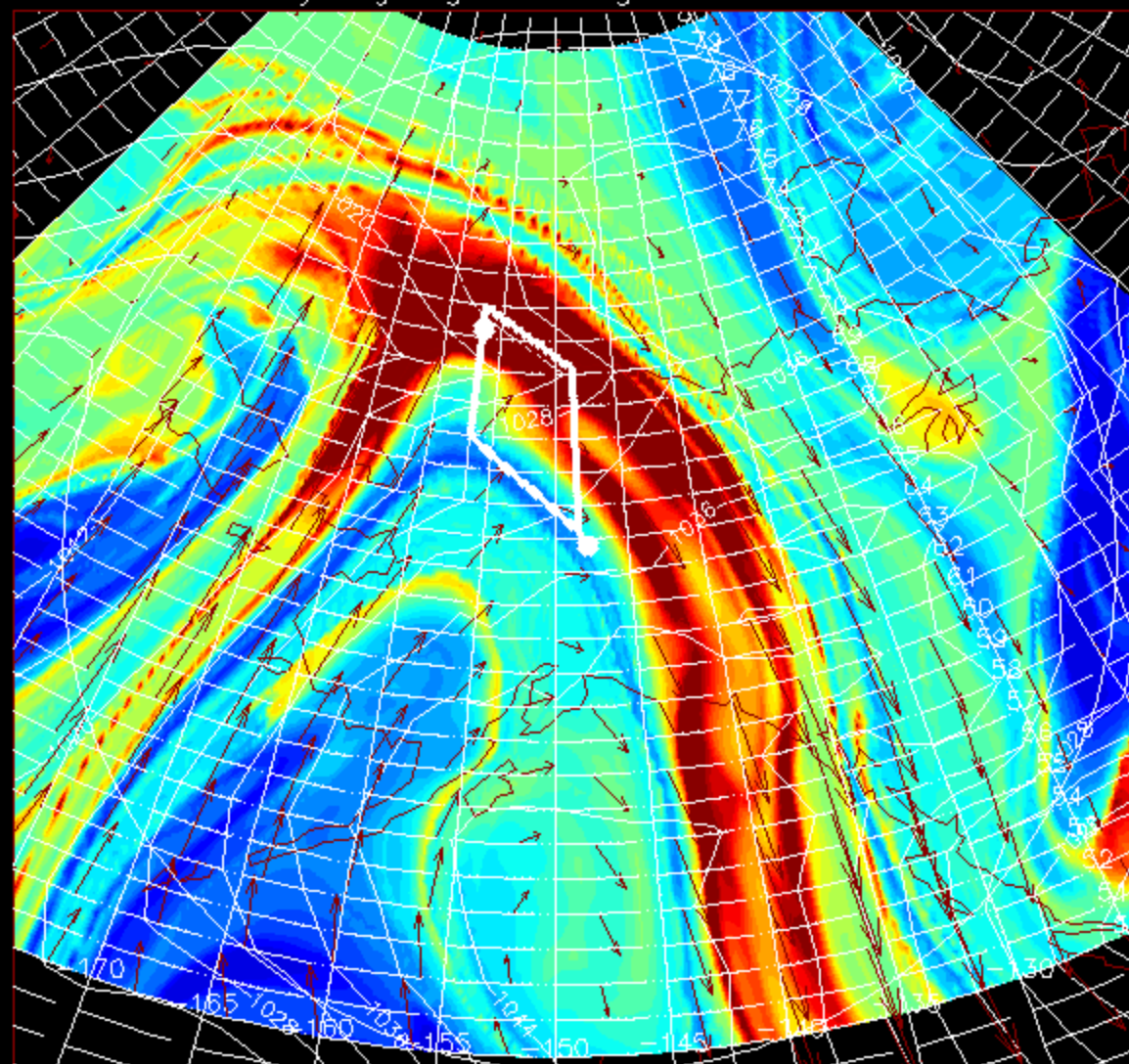
CRAS Barrow Cloud FX



IASI Barrow Overpass 21:34:46

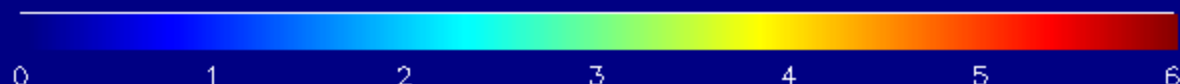
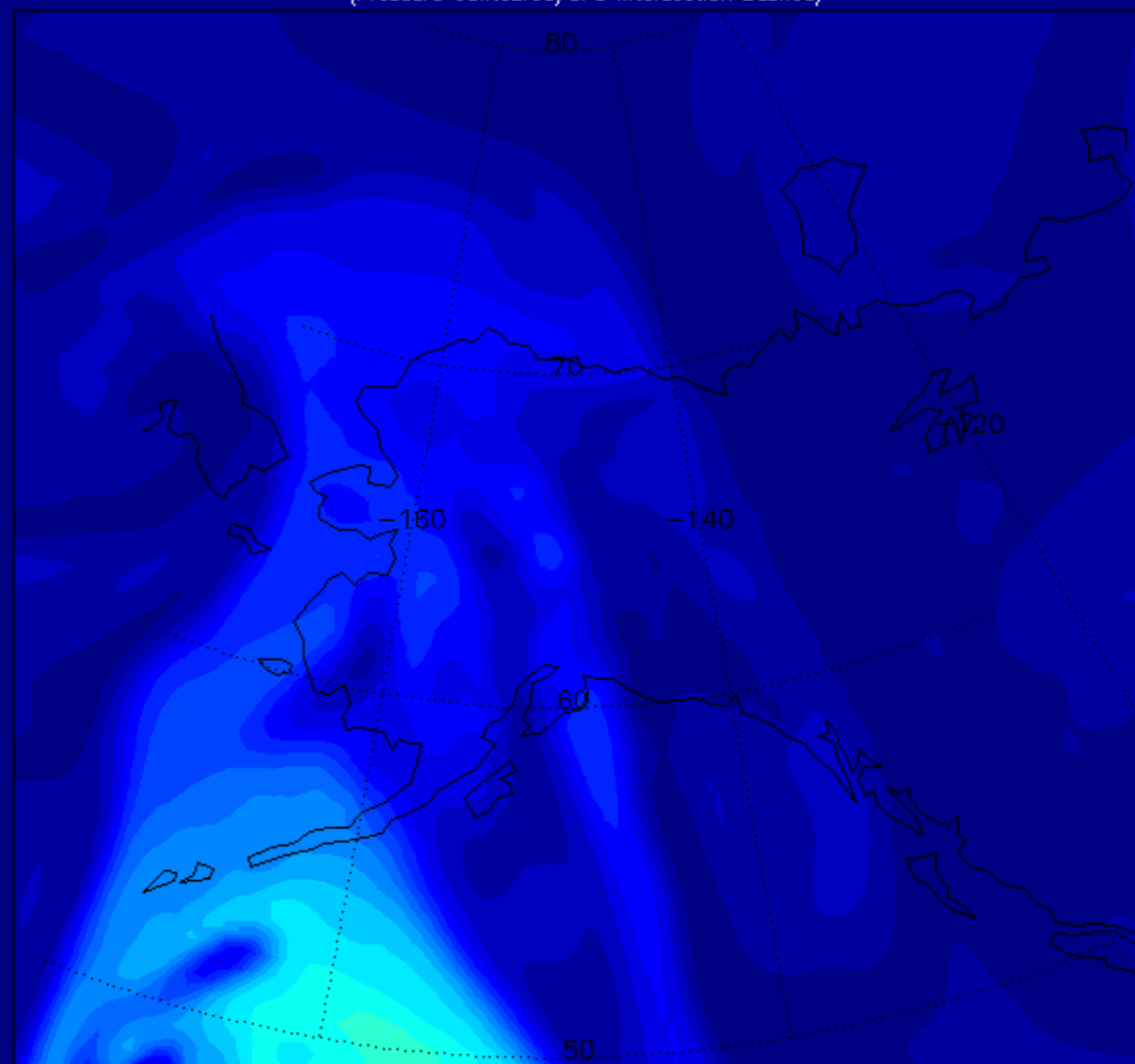


5km 5-day Lagrangian Averaged BC+OC 2008041900

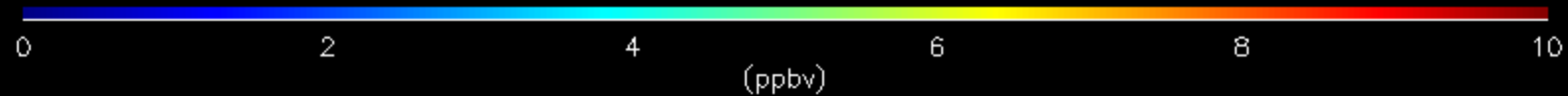
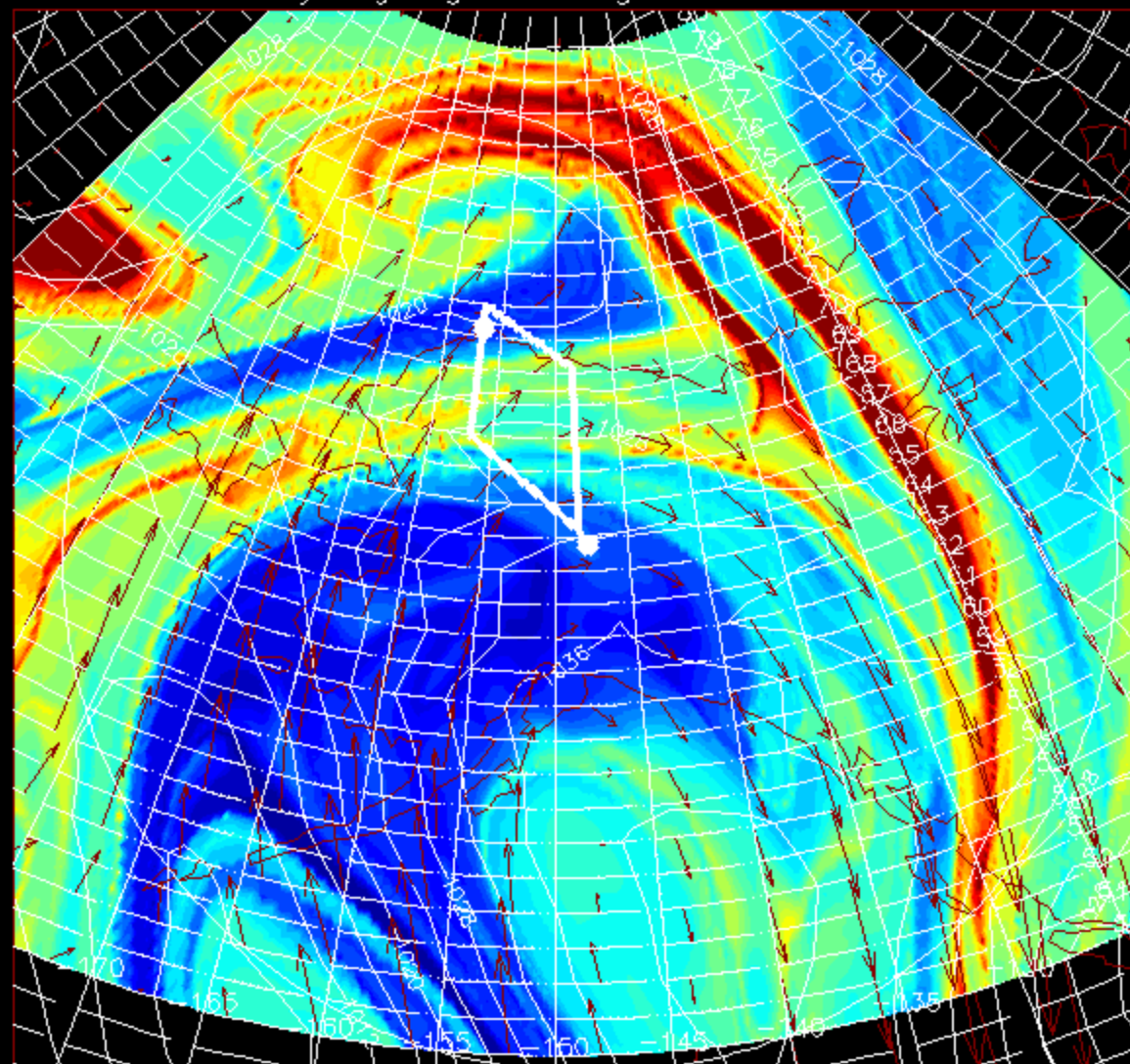


GFS 5km Q 00Z 20080419

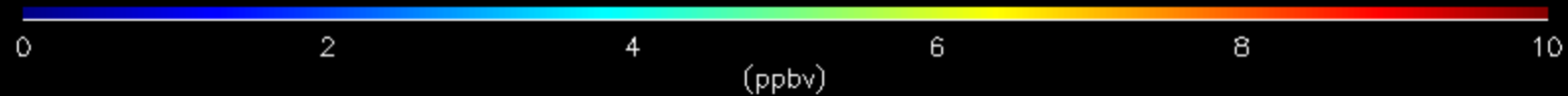
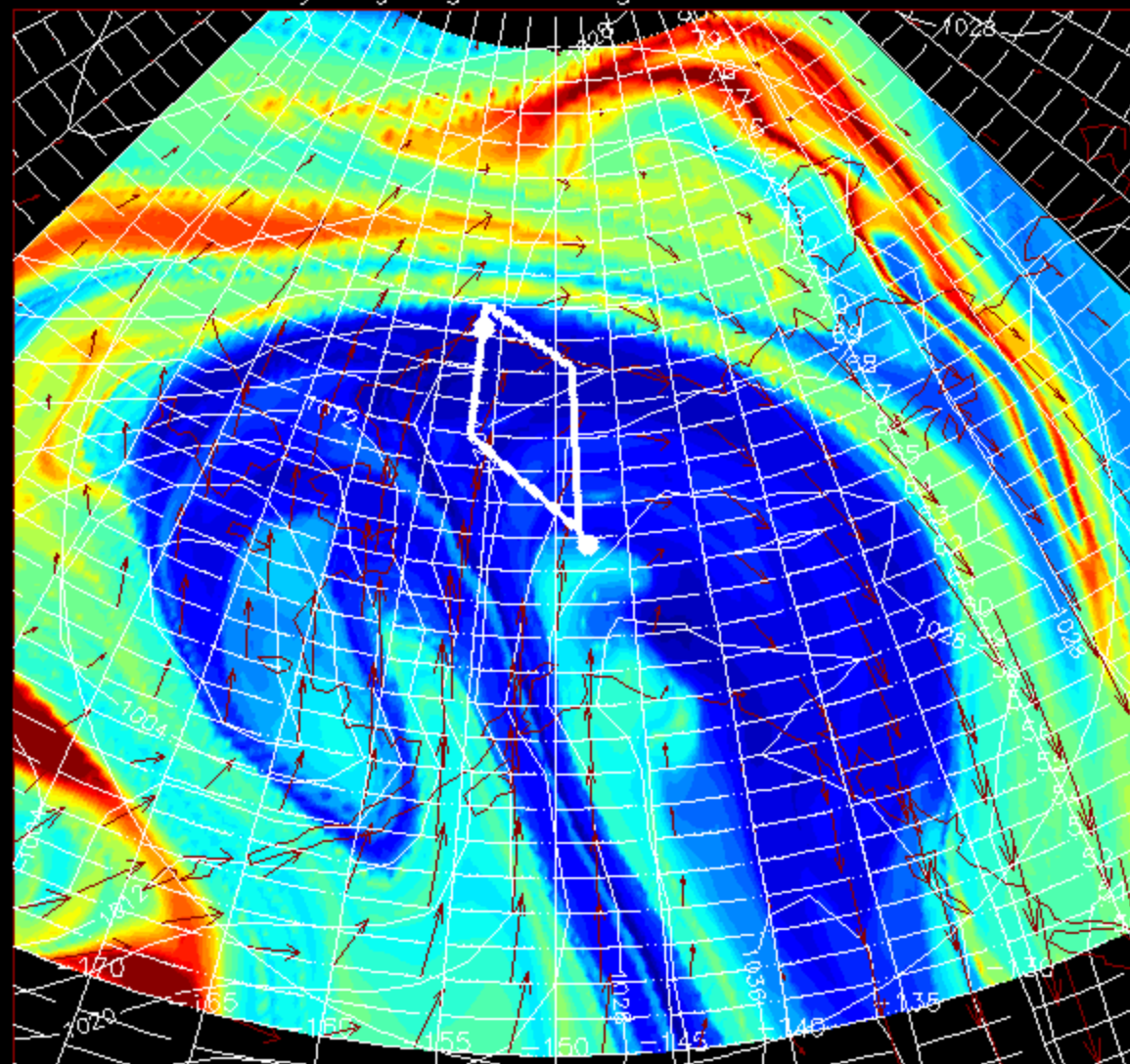
(Pressure Contoured/SFC Intersection Dashed)



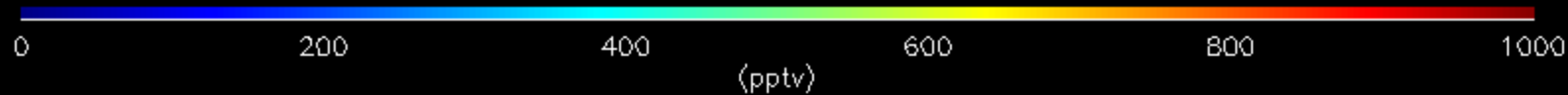
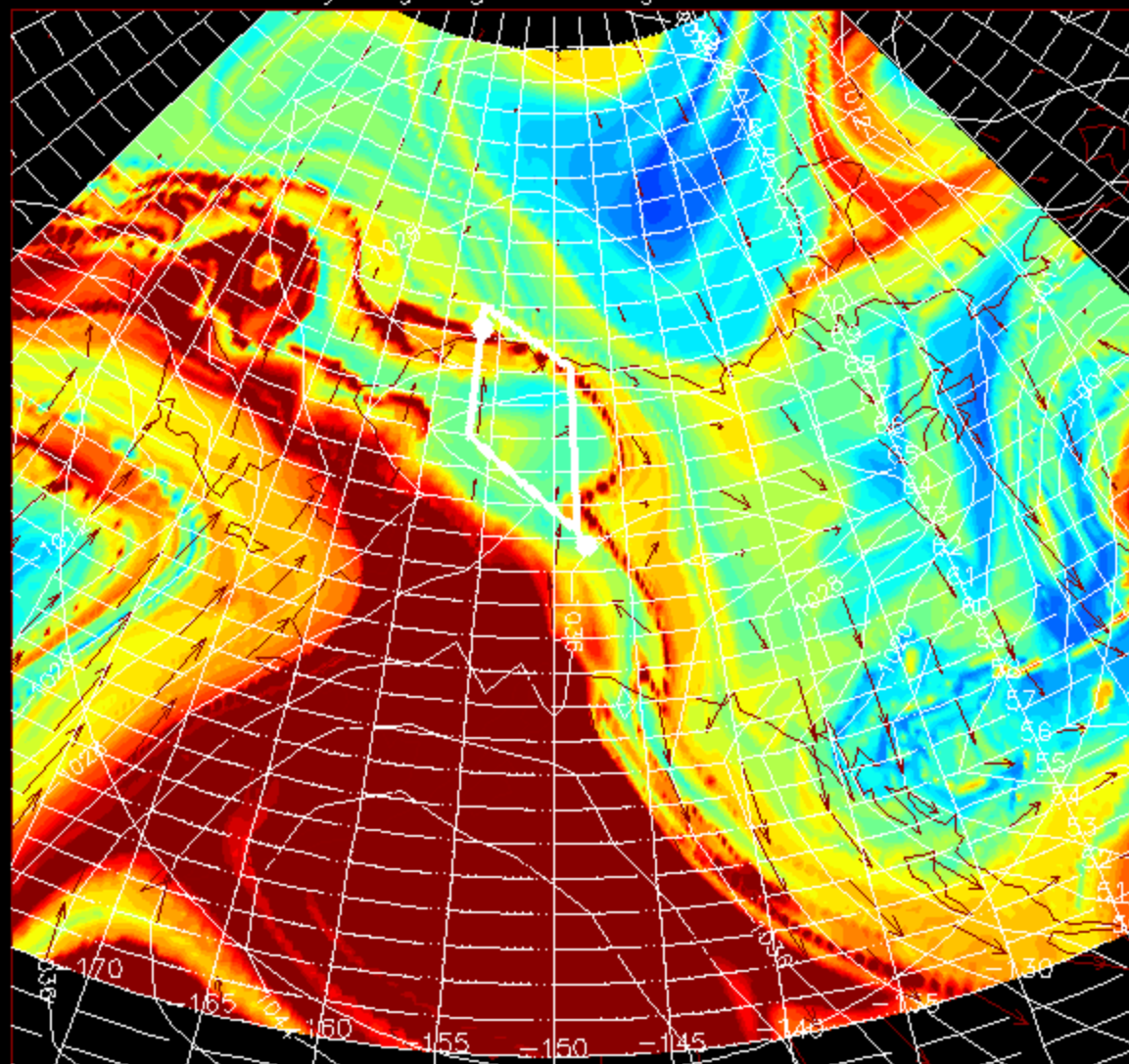
5km 5-day Lagrangian Averaged BC+OC 2008042000



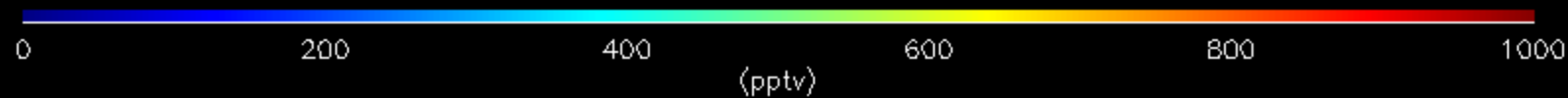
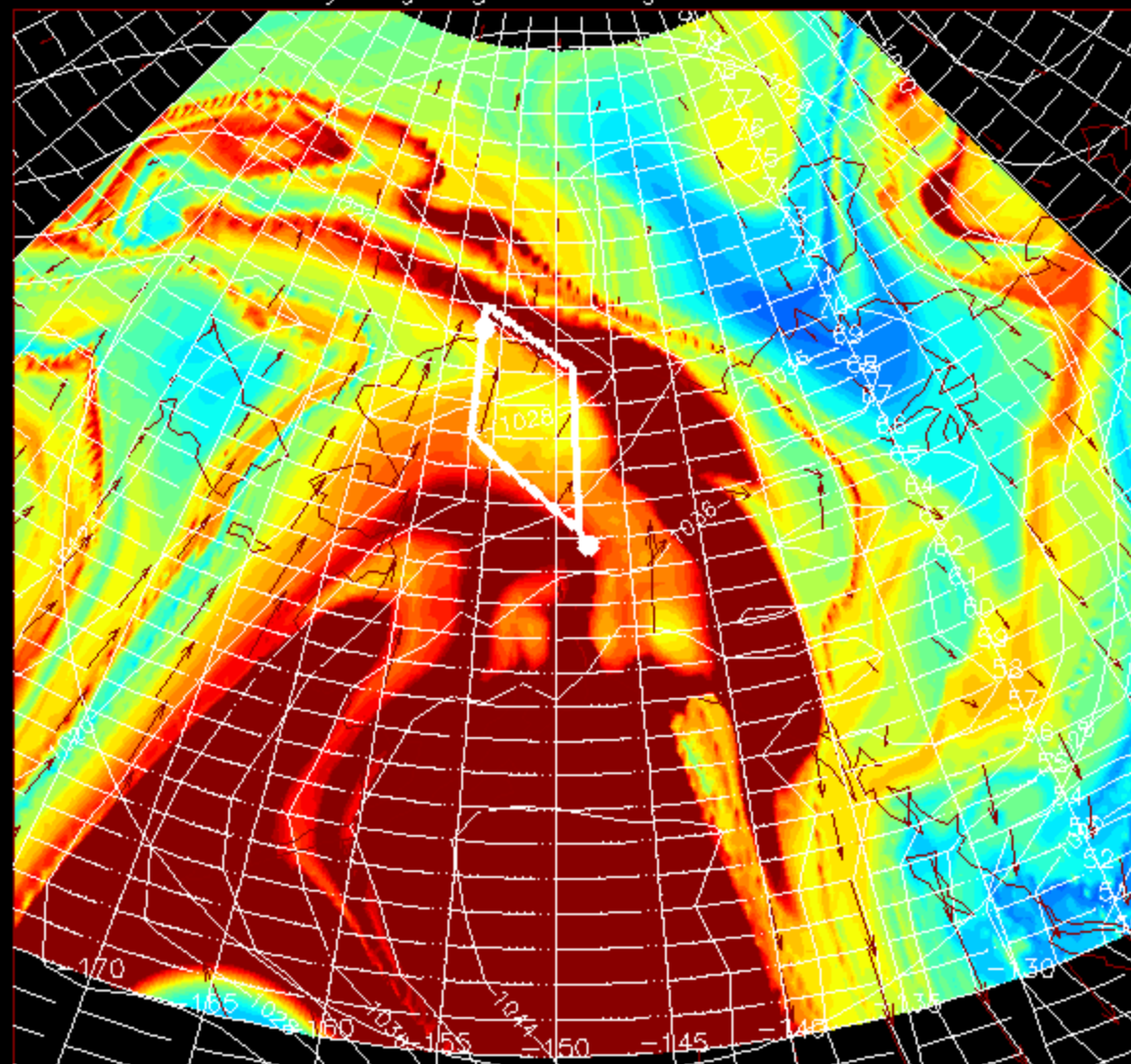
5km 5-day Lagrangian Averaged BC+OC 2008042100



1km 5-day Lagrangian Averaged S04 2008041800

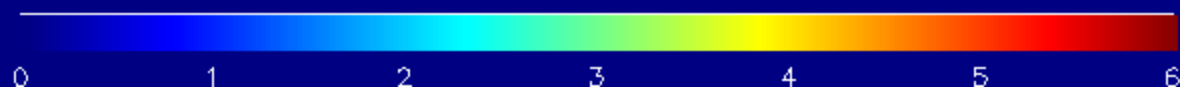
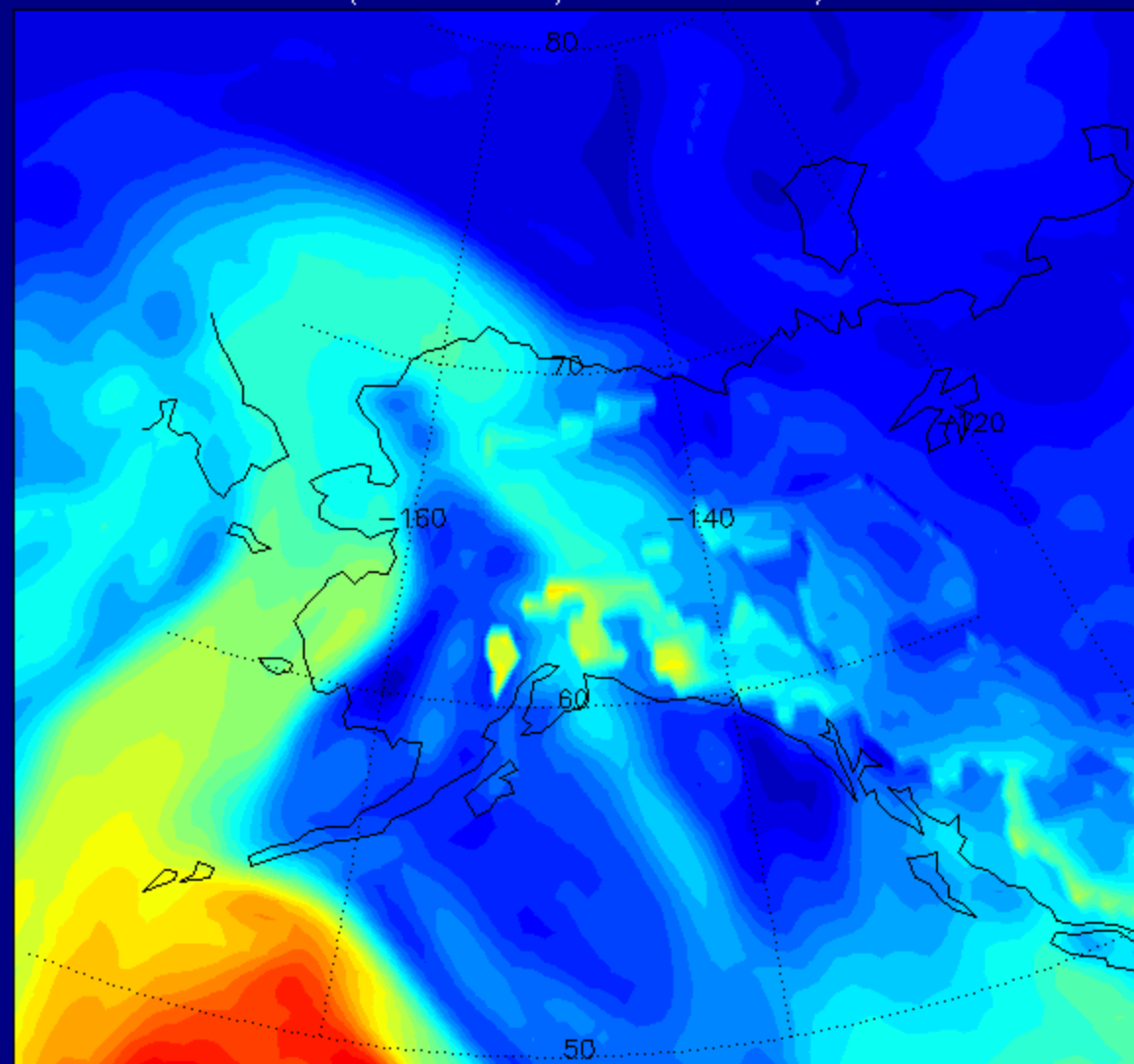


1km 5-day Lagrangian Averaged S04 2008041900

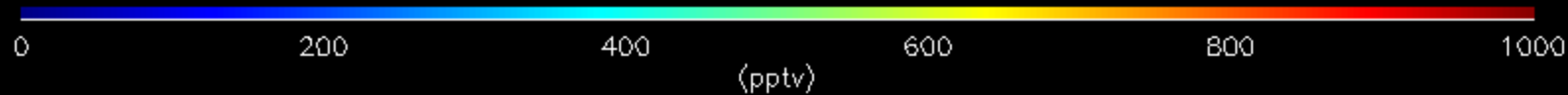
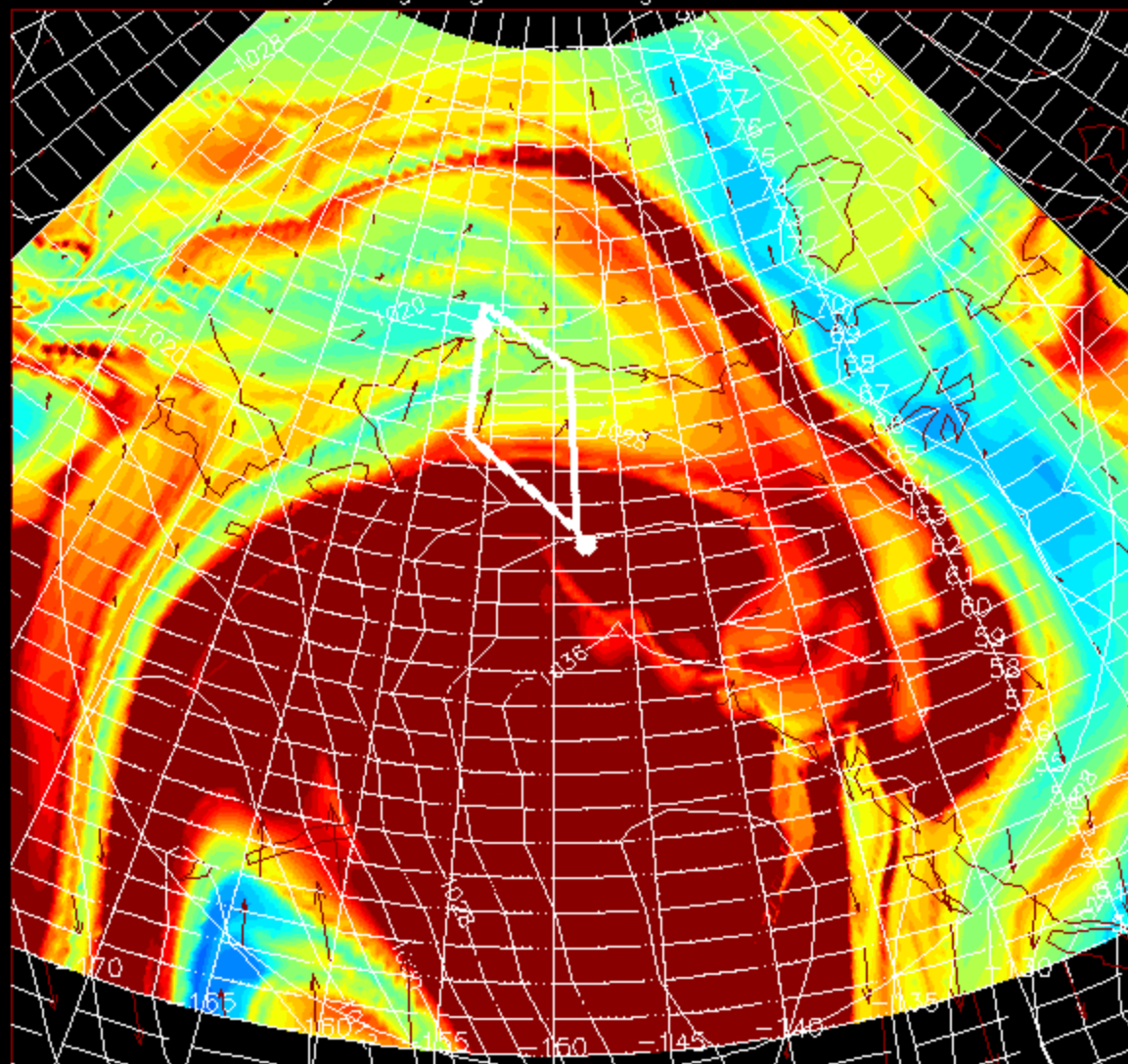


GFS 1km Q 00Z 20080419

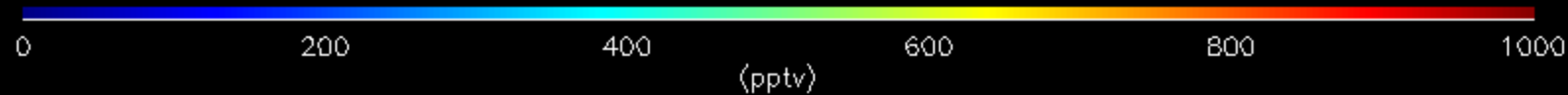
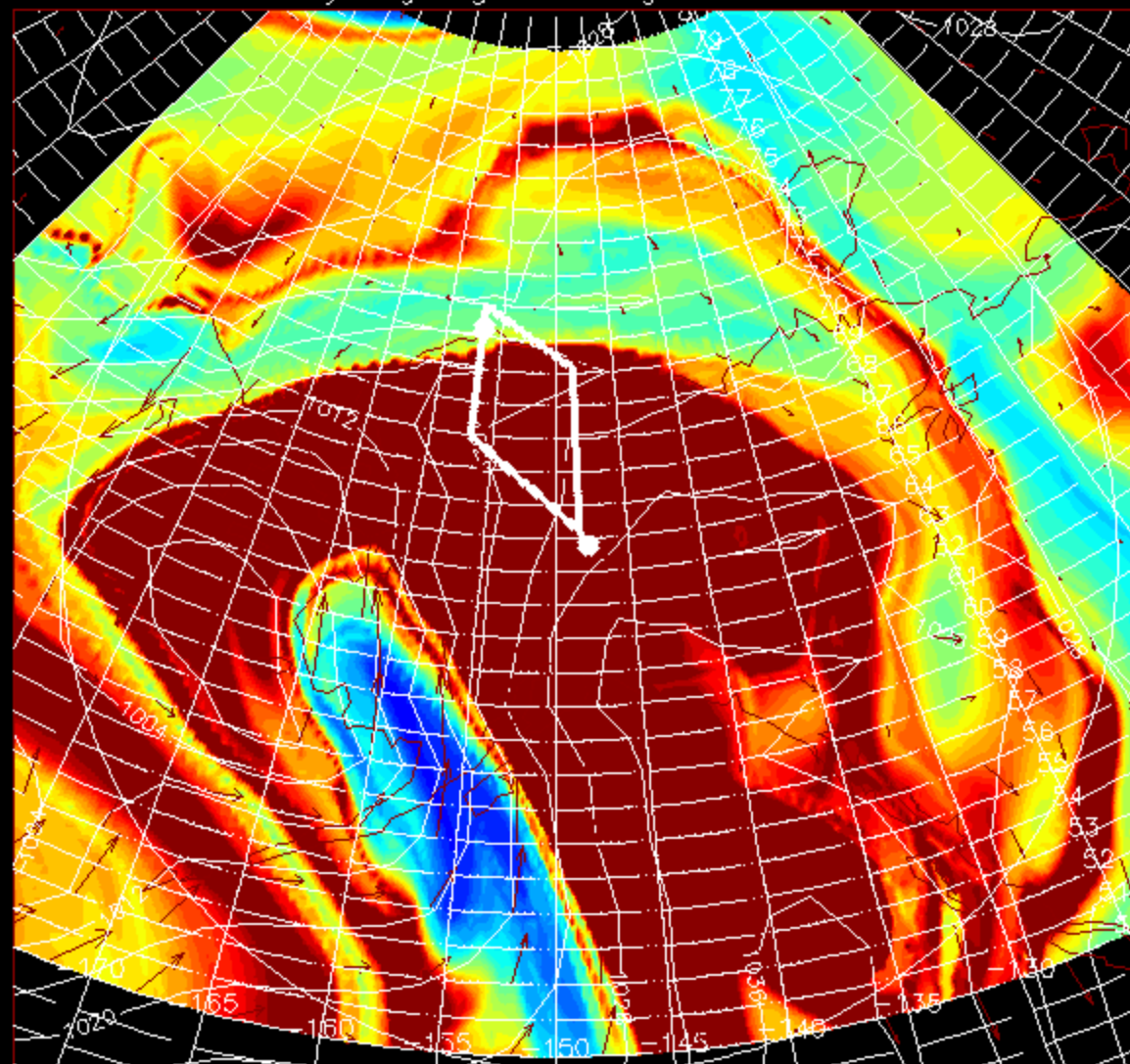
(Pressure Contoured/SFC Intersection Dashed)



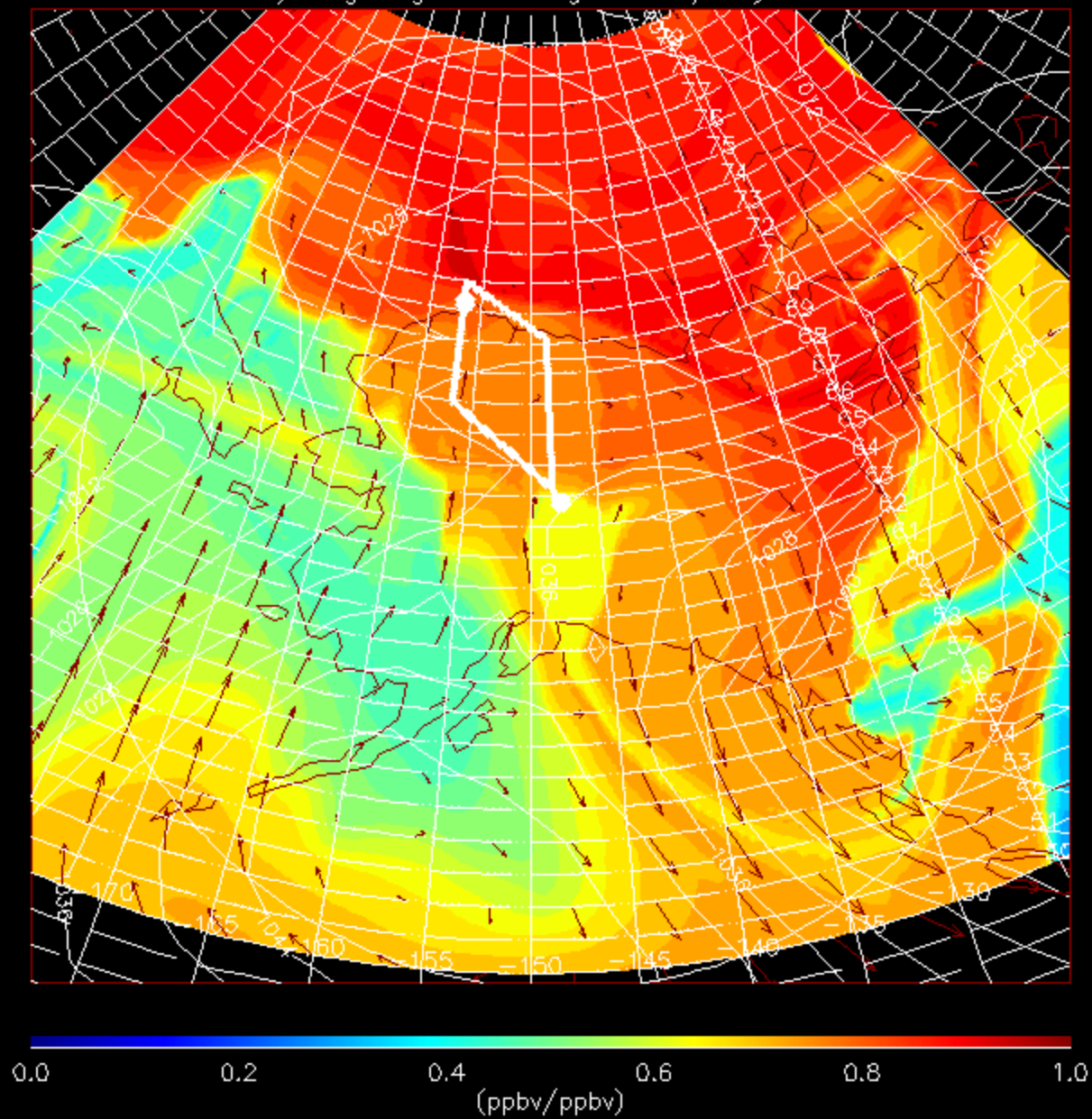
1km 5-day Lagrangian Averaged S04 2008042000



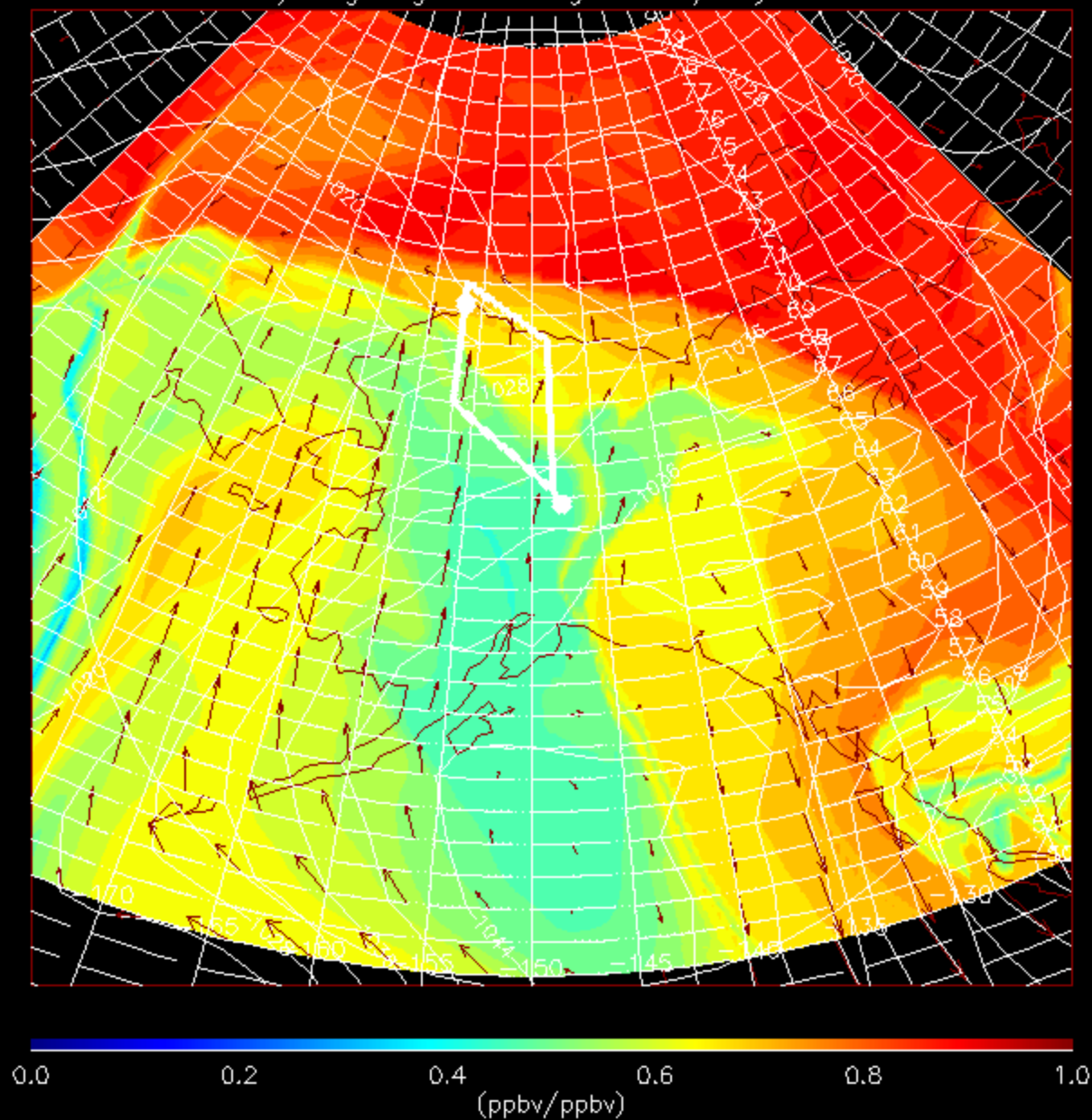
1km 5-day Lagrangian Averaged S04 2008042100



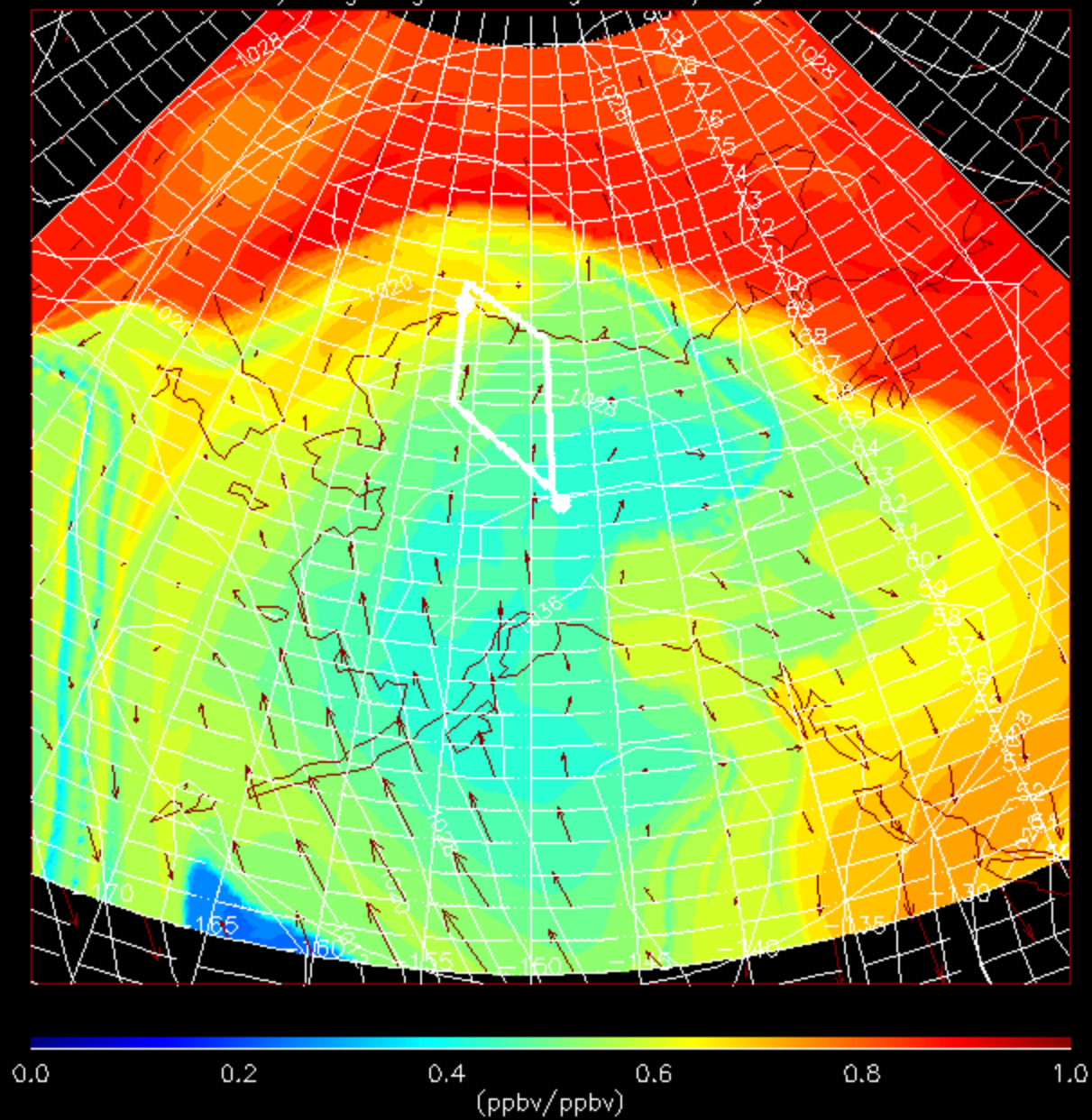
SFC 5-day Lagrangian Averaged PAN/NO_y 2008041800



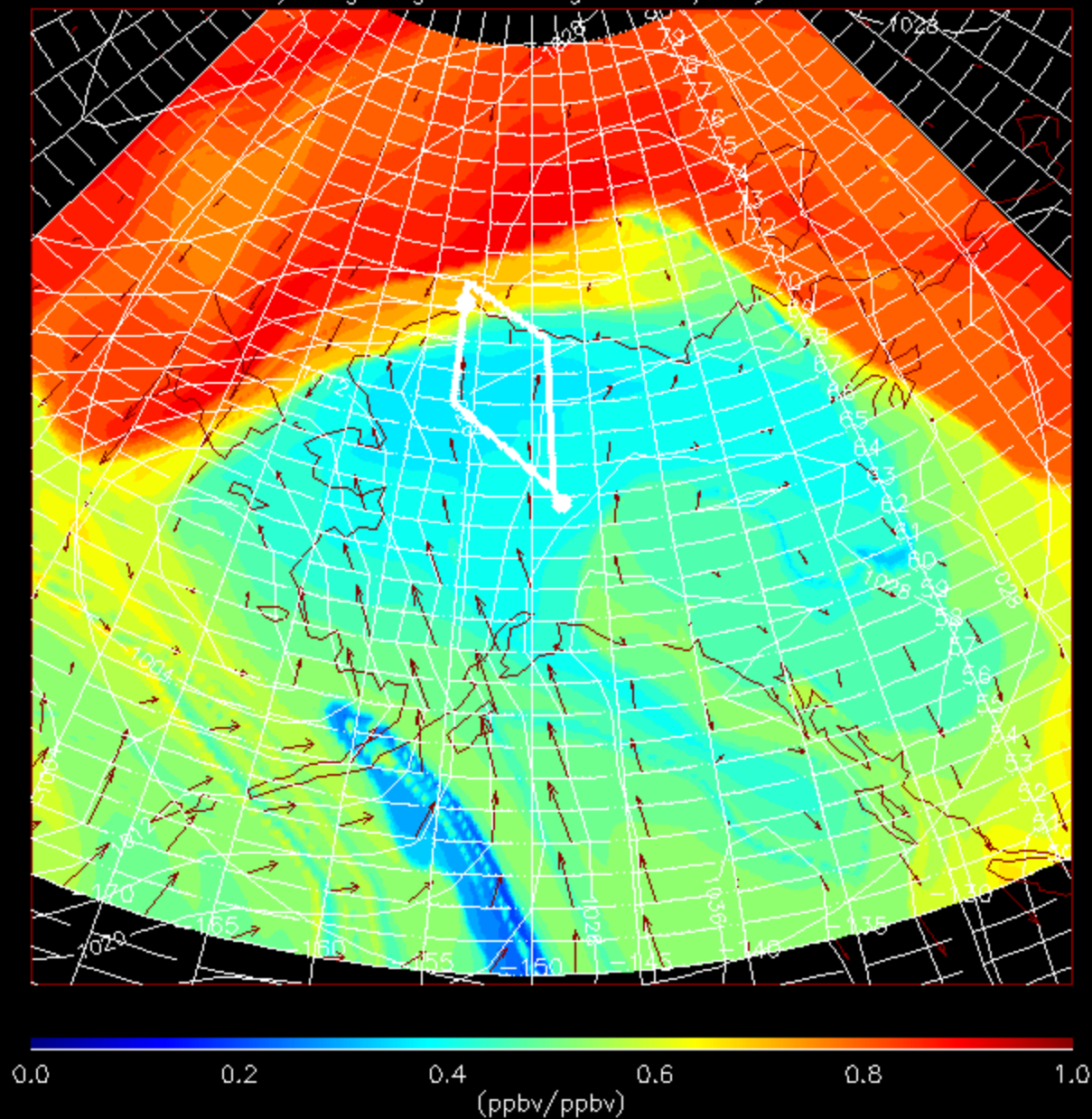
SFC 5-day Lagrangian Averaged PAN/NO_y 2008041900



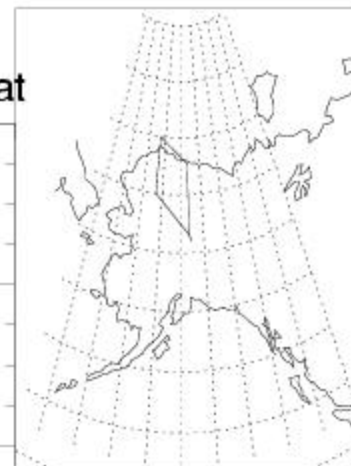
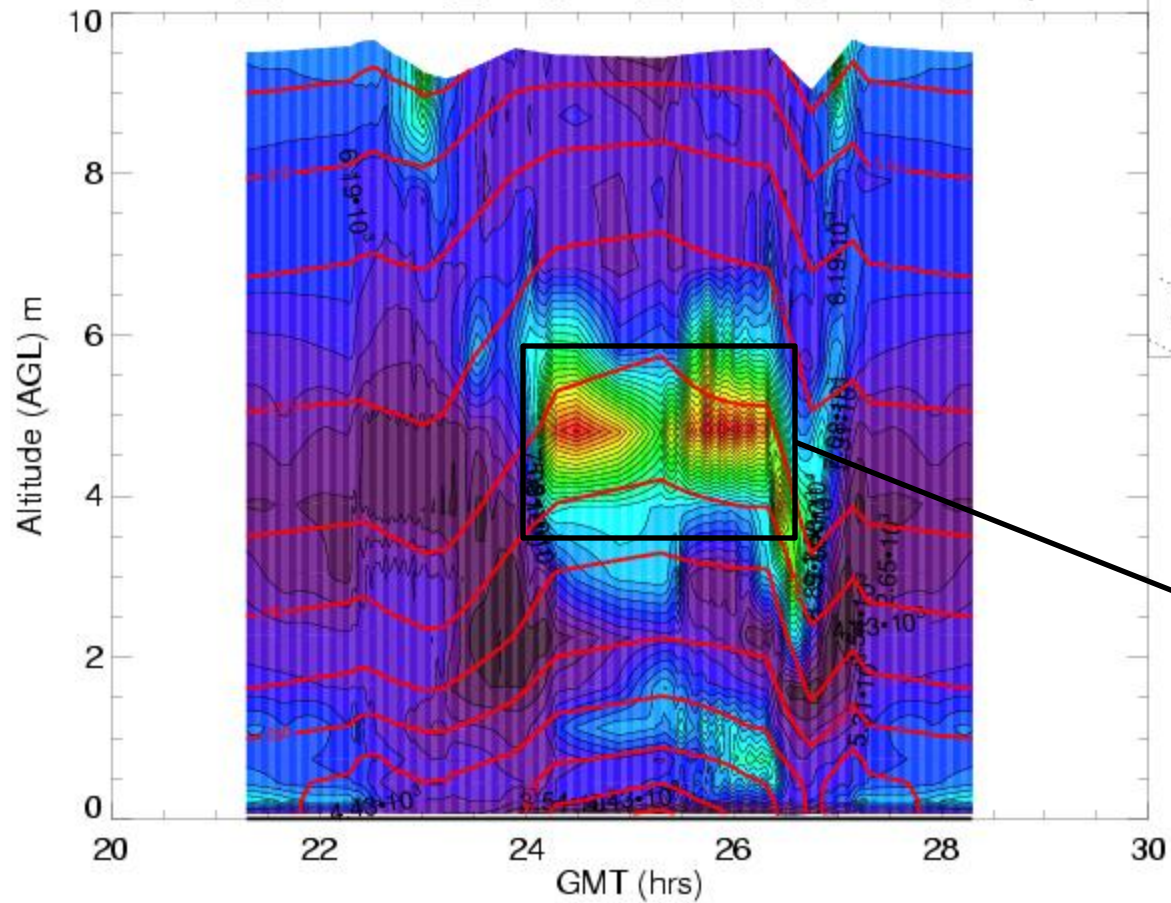
SFC 5-day Lagrangian Averaged PAN/NO_y 2008042000



SFC 5-day Lagrangian Averaged PAN/NO_y 2008042100

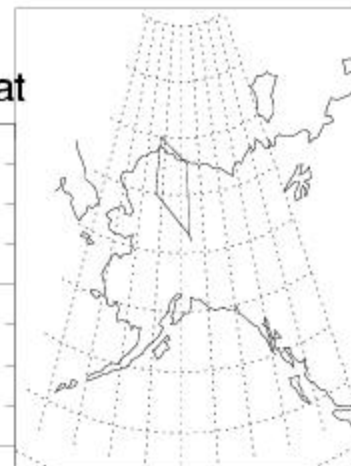
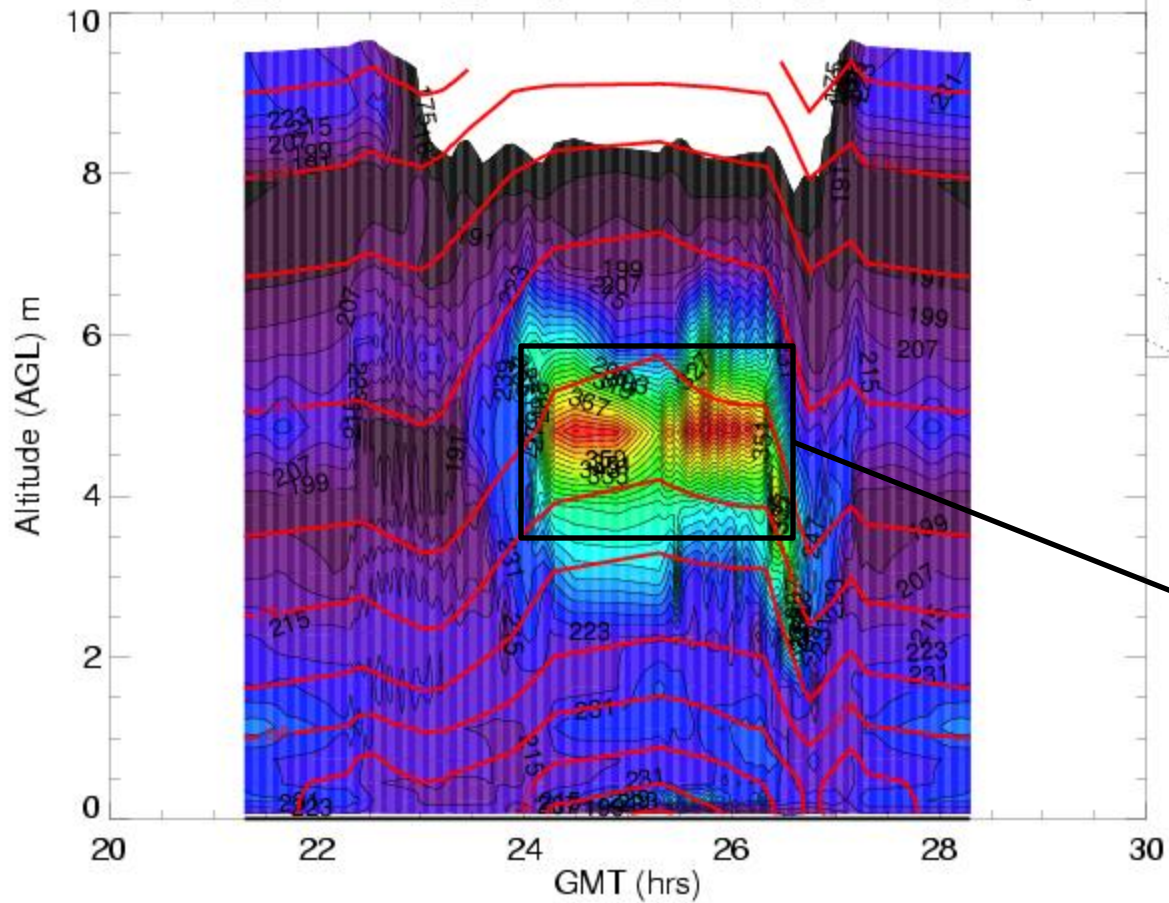


60hr FX ibcoc Cl= 885.000 max= 26575.0
RAQMS_20080419_00Z_60hr_fcst_rdf_curtain_arcpac.dat



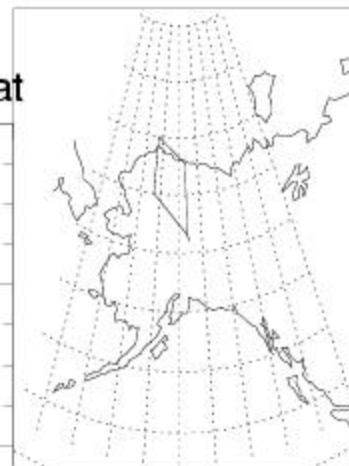
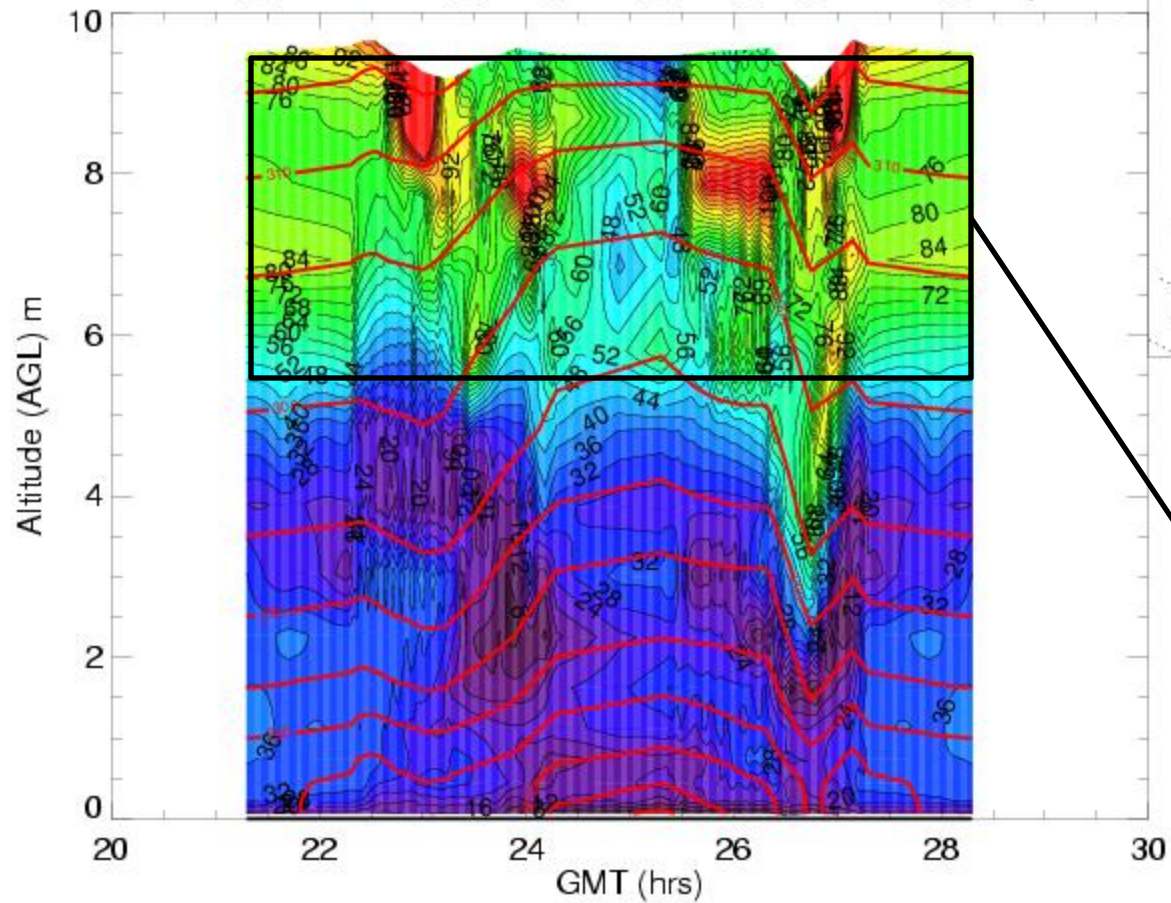
BCOC at 5km
Barrow-> Deadhorse

60hr FX ico CI= 8.00000 max= 422.513
RAQMS_20080419_00Z_60hr_fcst_rdf_curtain_arcpac.dat



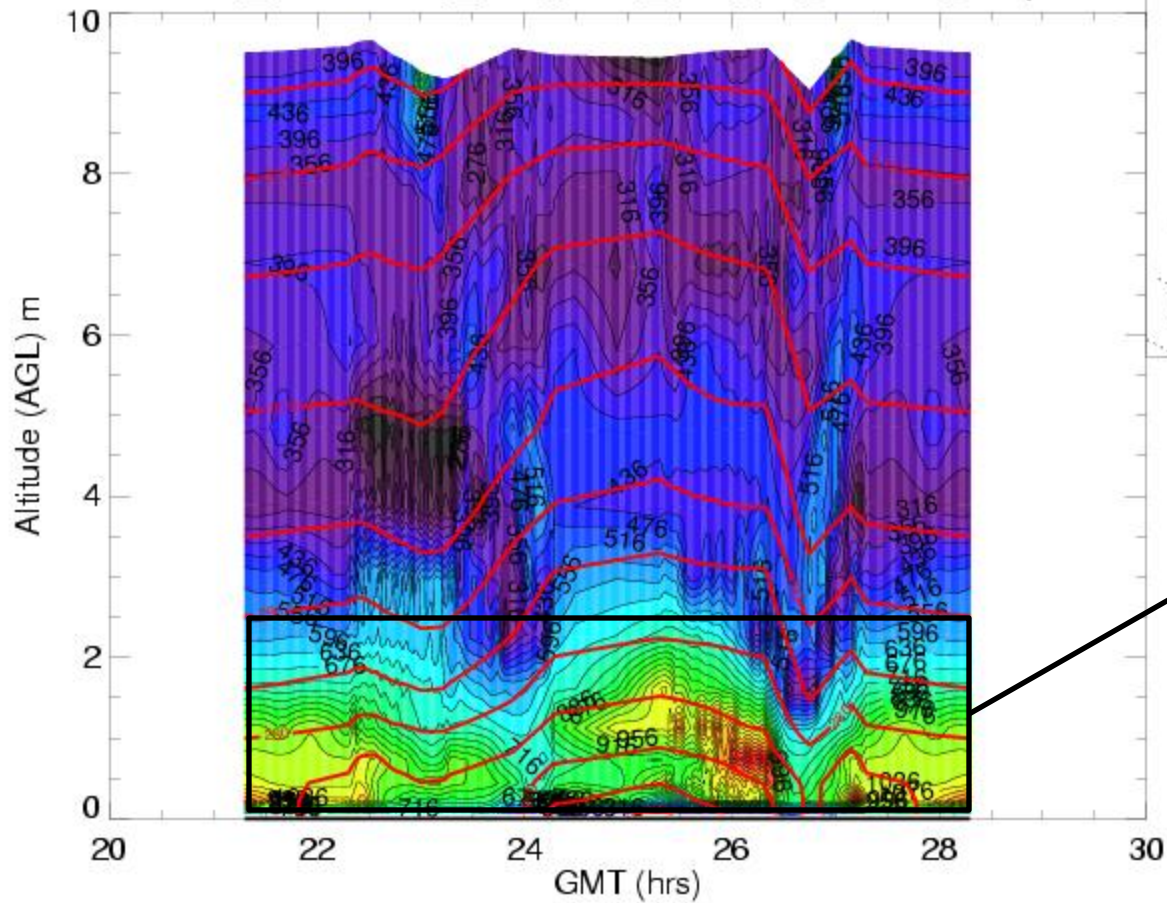
CO at 5km
Barrow-> Deadhorse

60hr FX idust CI= 4.00000 max= 219.602
RAQMS_20080419_00Z_60hr_fcst_rdf_curtain_arcpac.dat



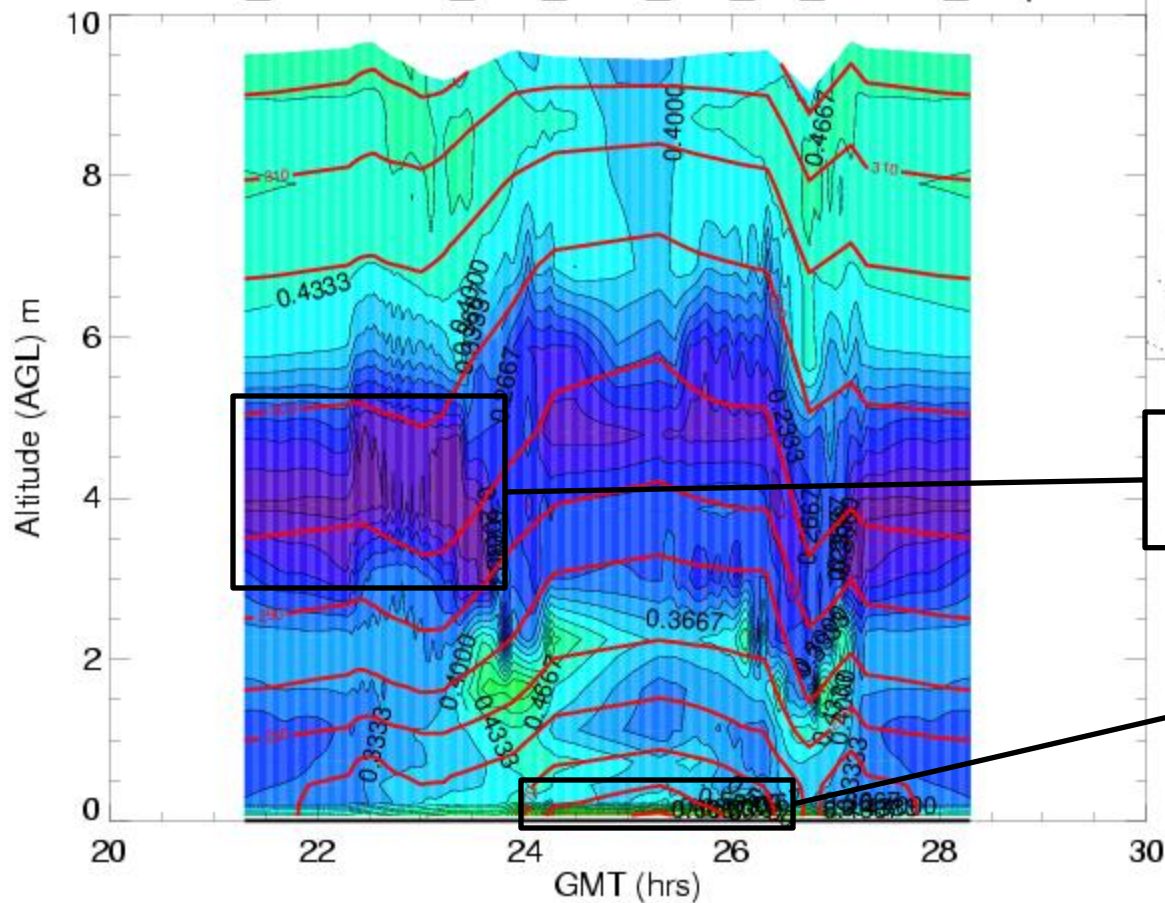
Dust above 6km

60hr FX iso4 Cl= 40.0000 max= 1373.32
RAQMS_20080419_00Z_60hr_fcst_rdf_curtain_arcpac.dat



SO4 below 2km

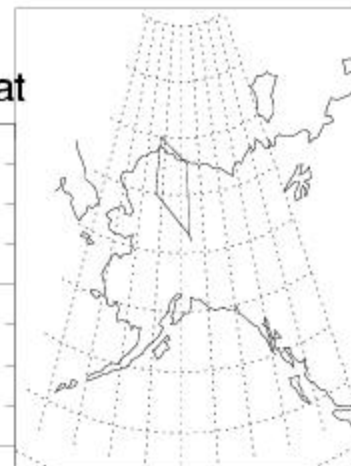
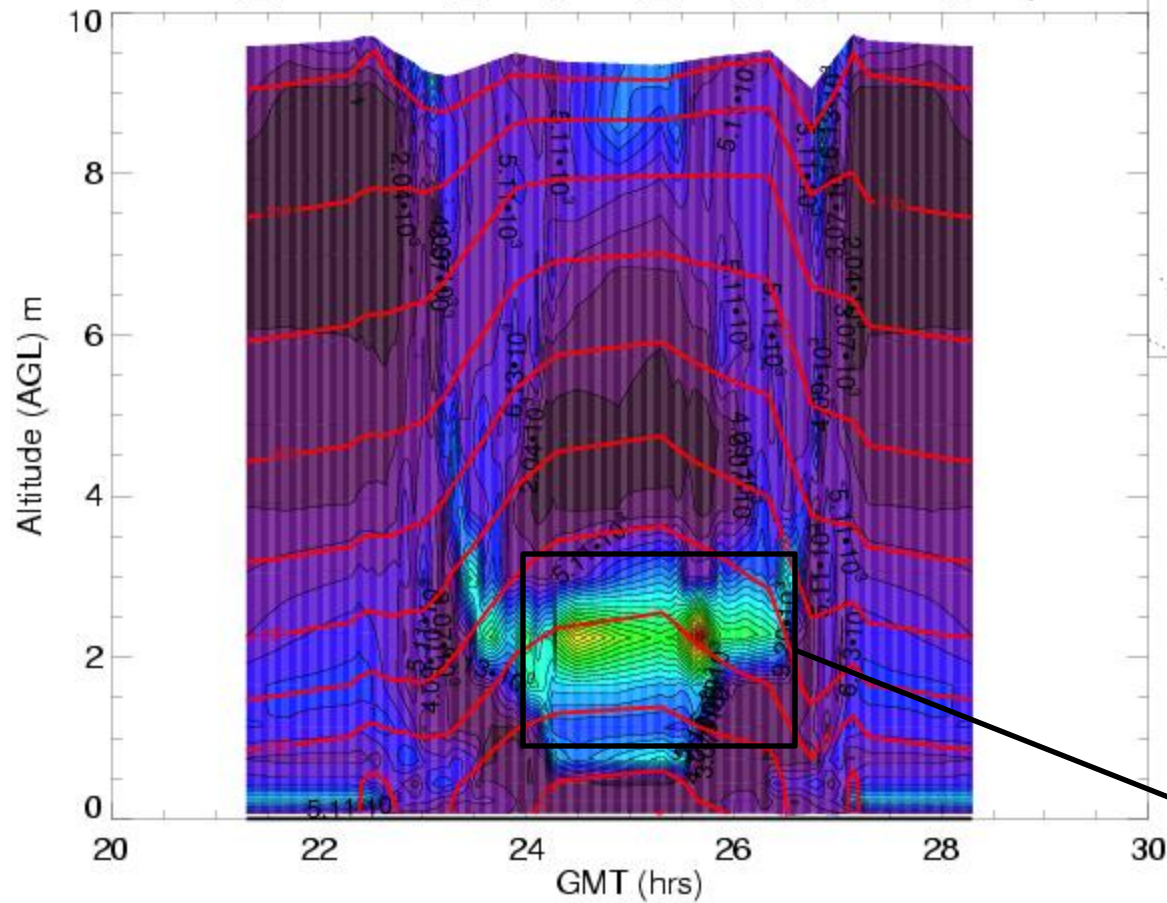
60hr FX ipannoy CI= 0.0333333 max= 0.730053
RAQMS_20080419_00Z_60hr_fcst_rdf_curtain_arcpac.dat



“Fresh” cleaner air at 4km
Fairbanks-> Barrow

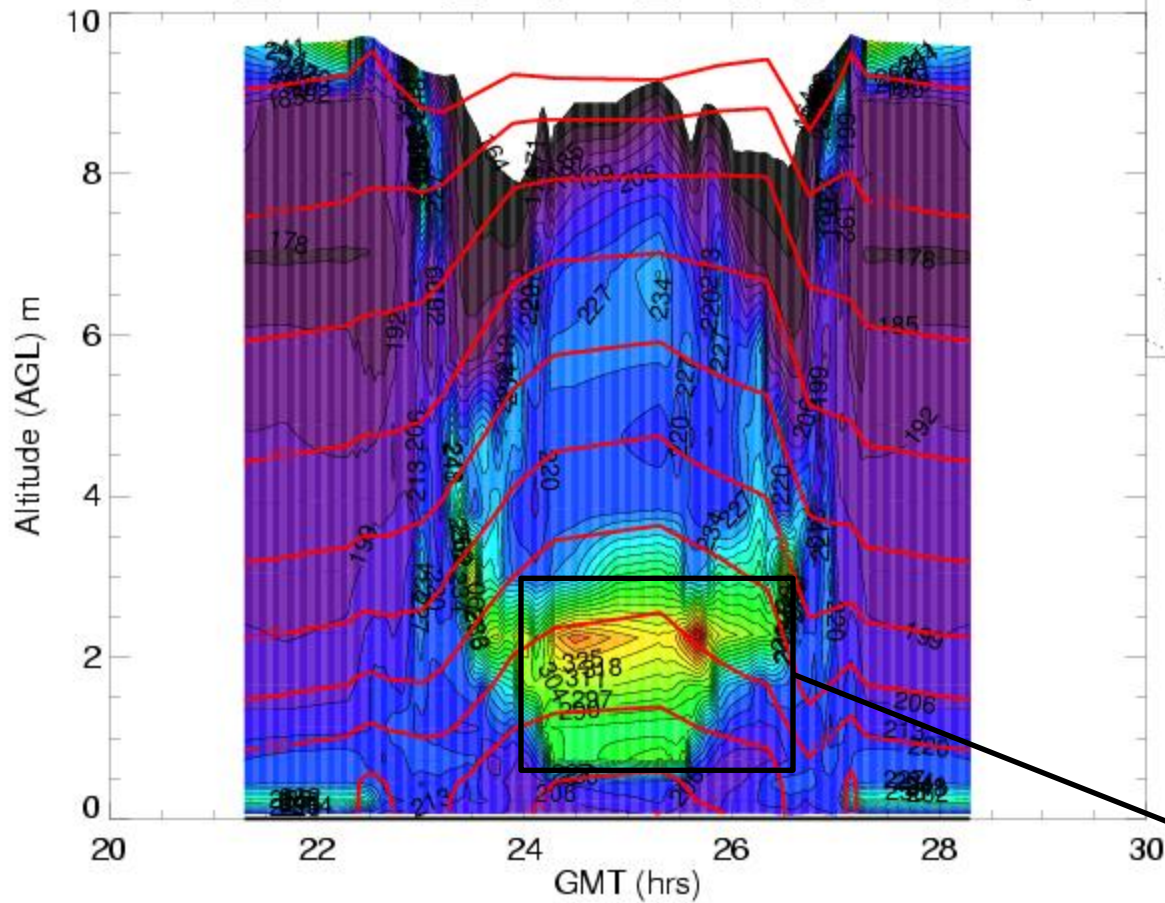
Aged Arctic Air
Barrow-> Deadhorse

84hr FX ibcoc Cl= 1022.00 max= 30684.5
RAQMS_20080420_00Z_84hr_fcst_rdf_curtain_arcpac.dat

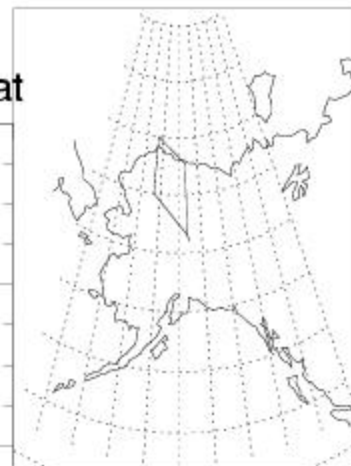
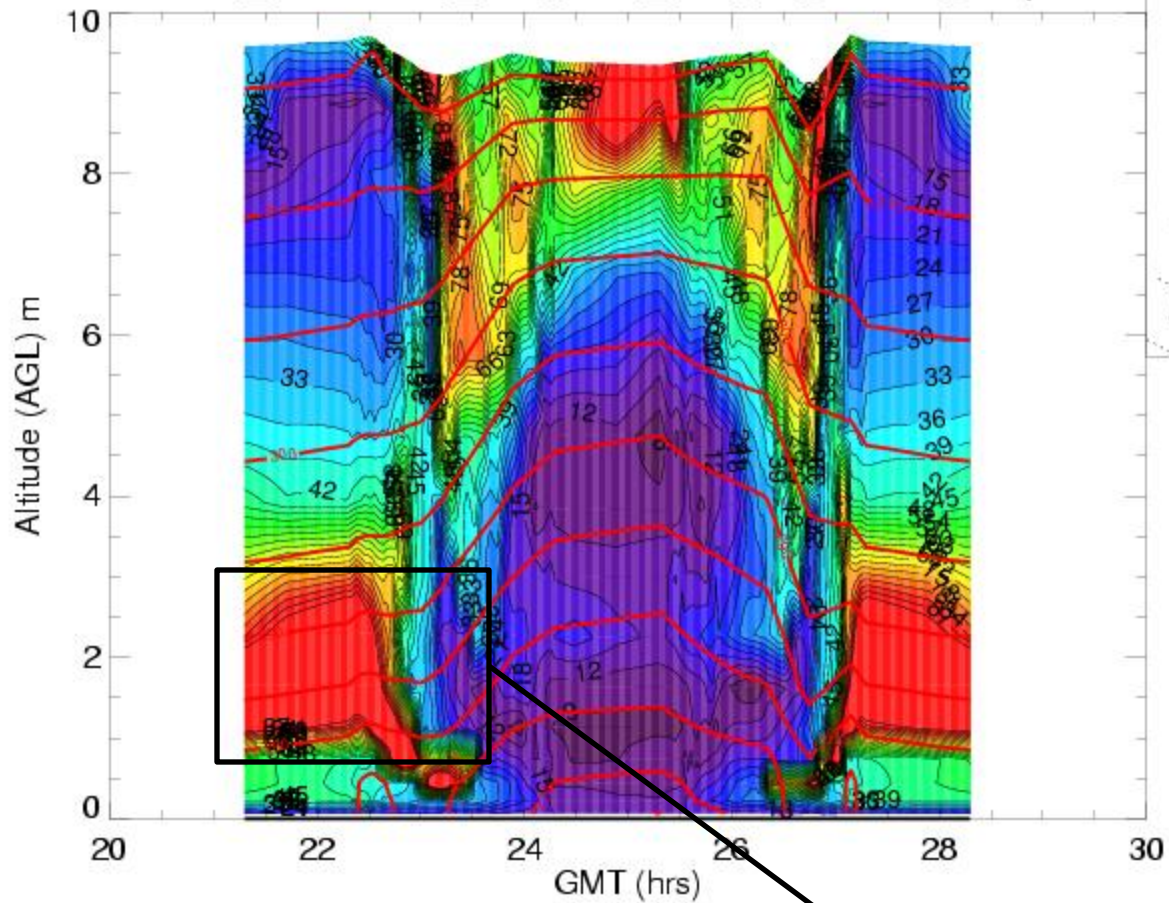


BCOC at 2km
Barrow-> Deadhorse

84hr FX ico CI= 7.00000 max= 380.989
RAQMS_20080420_00Z_84hr_fcst_rdf_curtain_arcpac.dat

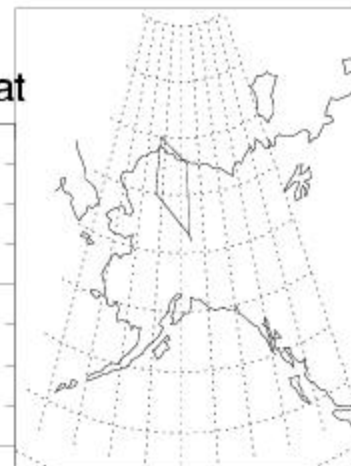
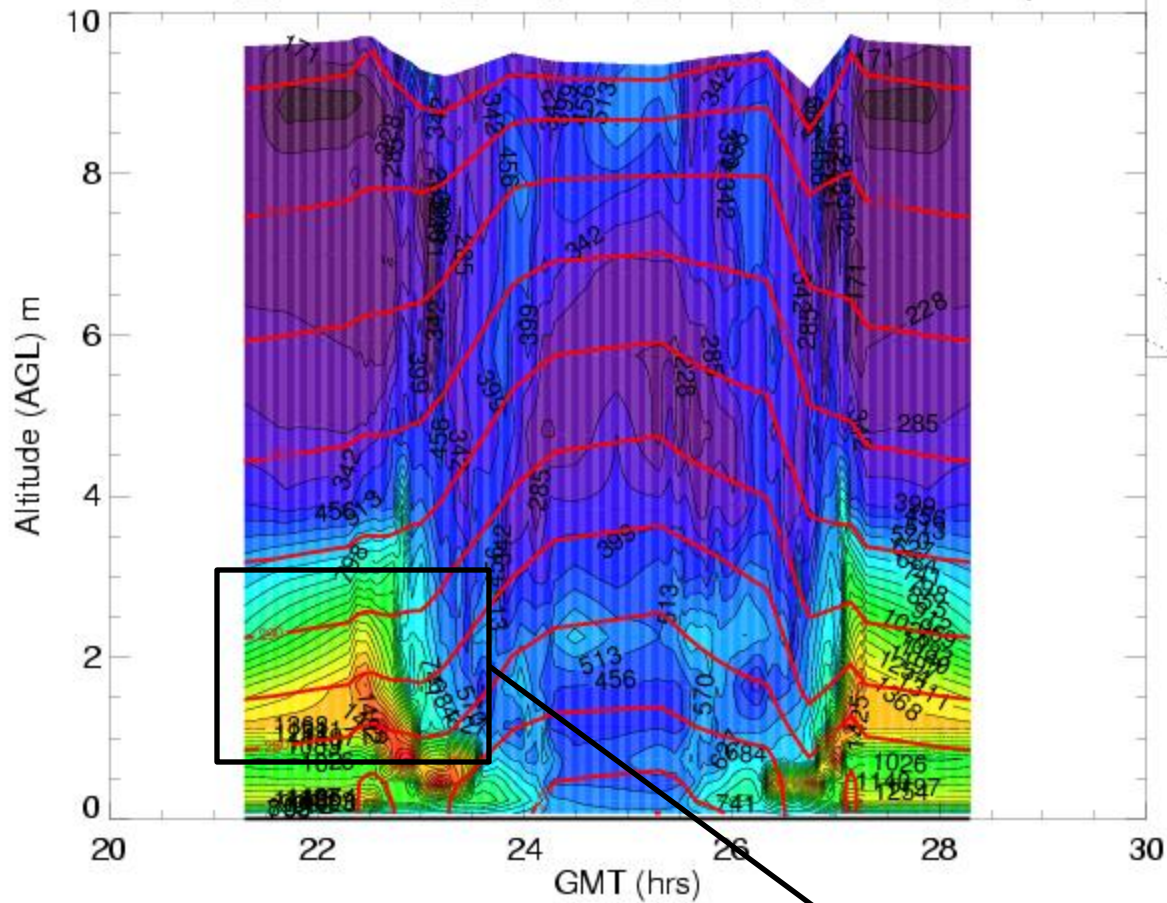


84hr FX idust CI= 3.00000 max= 146.669
RAQMS_20080420_00Z_84hr_fcst_rdf_curtain_arcpac.dat



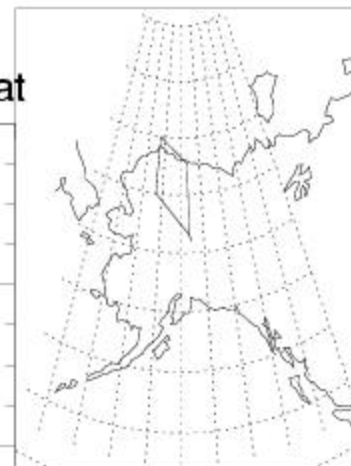
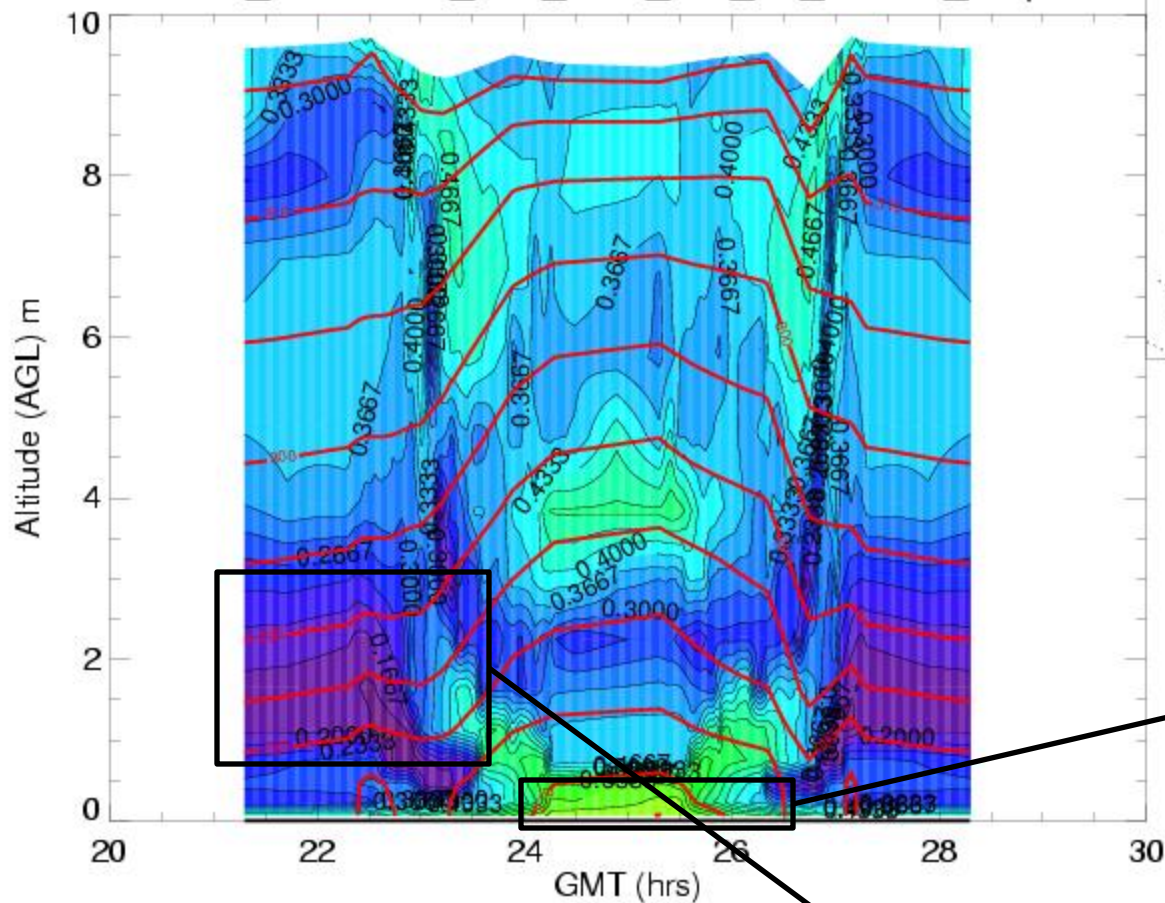
Dust at 2km
Fairbanks-> Barrow

84hr FX iso4 Cl= 57.0000 max= 1732.81
RAQMS_20080420_00Z_84hr_fcst_rdf_curtain_arcpac.dat



SO4 at 2km
Fairbanks-> Barrow

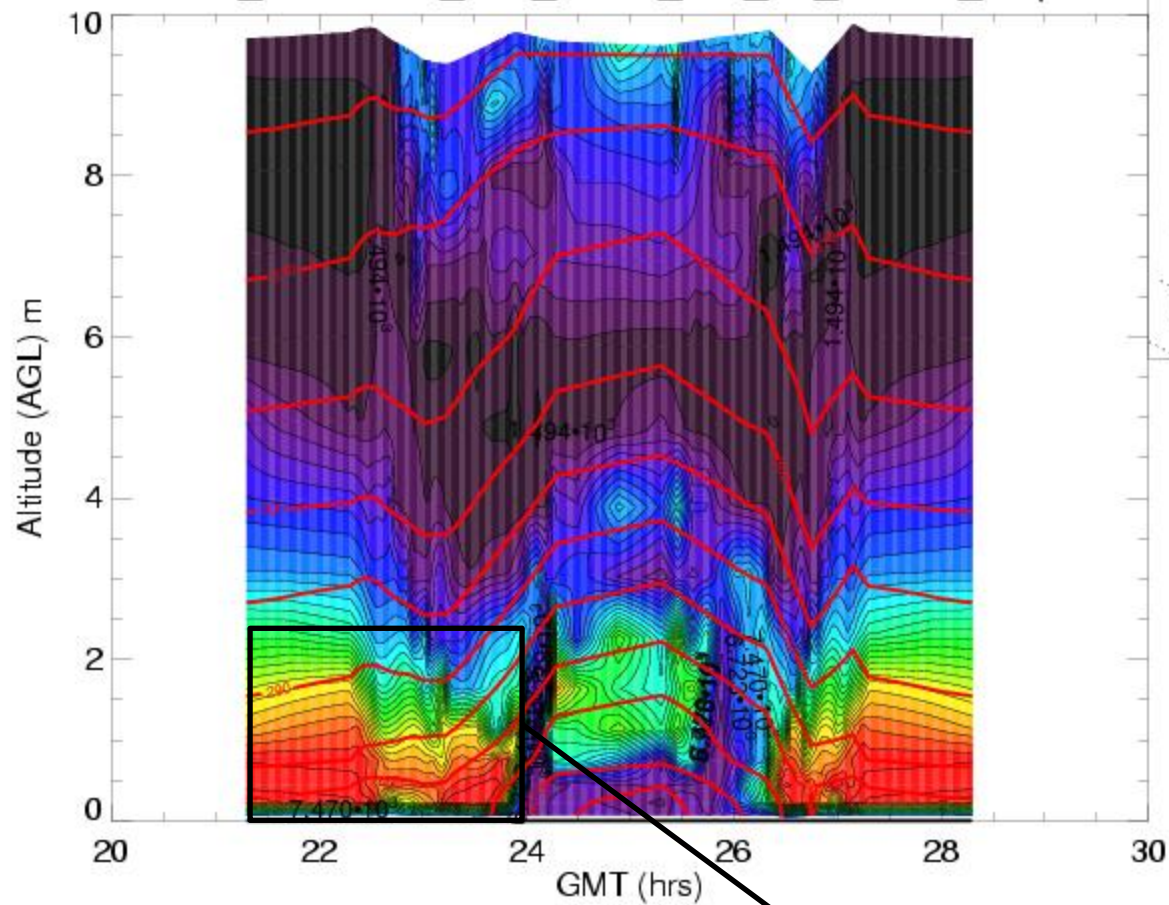
84hr FX ipannoy CI= 0.0333333 max= 0.691954
RAQMS_20080420_00Z_84hr_fcst_rdf_curtain_arcpac.dat



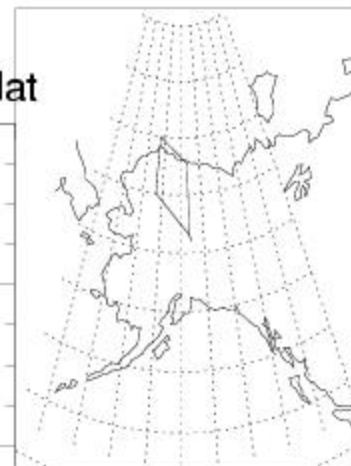
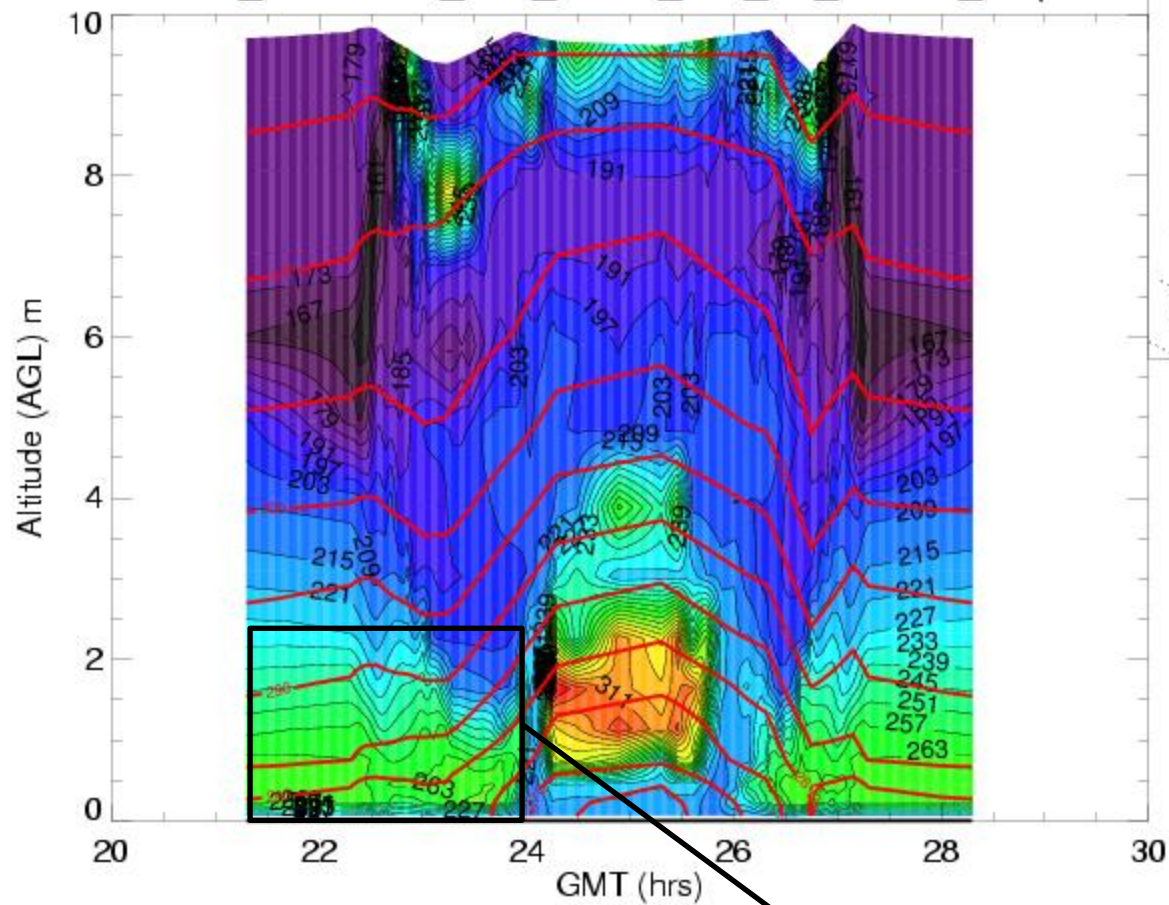
Aged Arctic Air
Barrow-> Deadhorse

"Fresh" pollution at 2km
Fairbanks-> Barrow

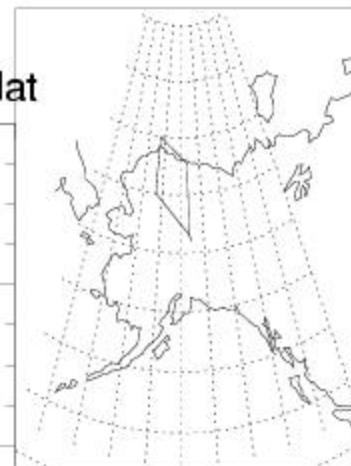
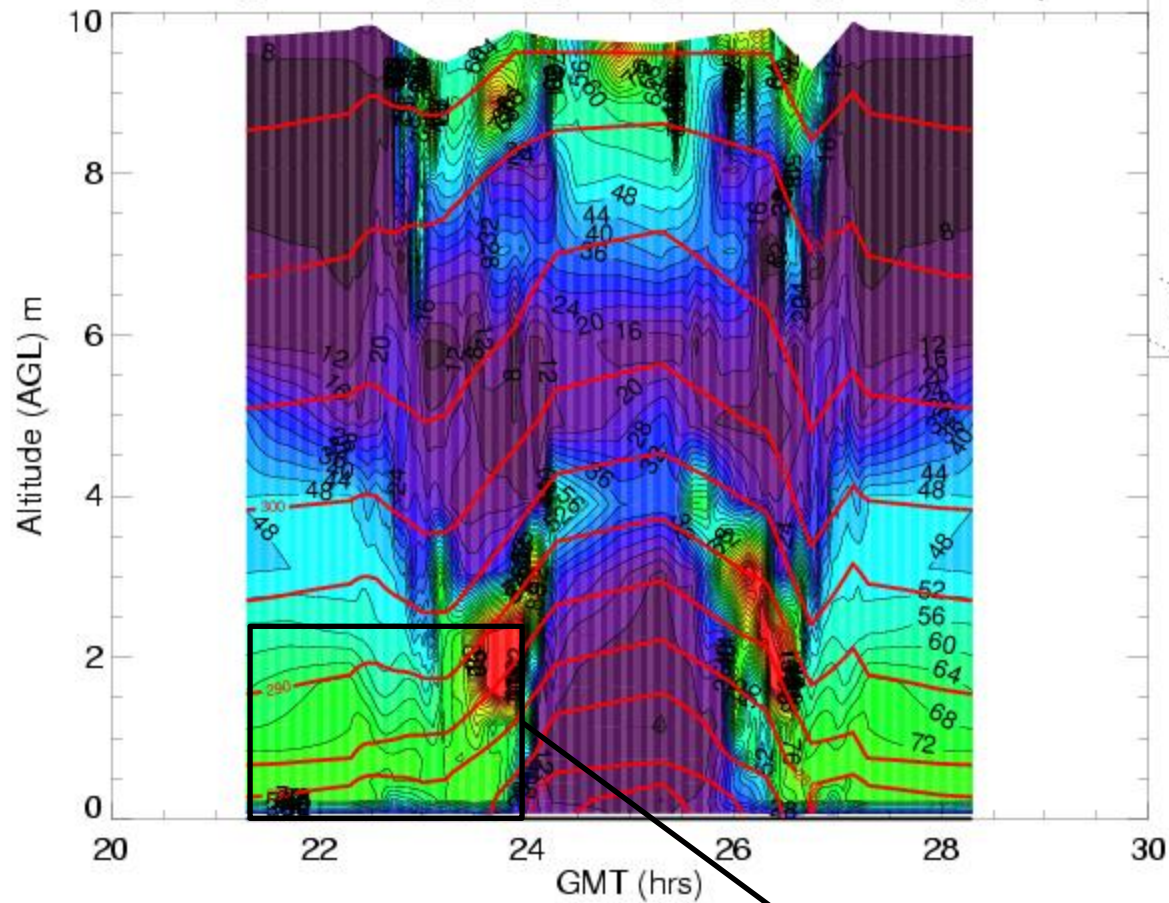
108hr FX ibcoc CI= 747.000 max= 22422.0
RAQMS_20080421_00Z_108hr_fcst_rdf_curtain_arcpac.dat



108hr FX ico Cl= 6.00000 max= 339.320
RAQMS_20080421_00Z_108hr_fcst_rdf_curtain_arcpac.dat

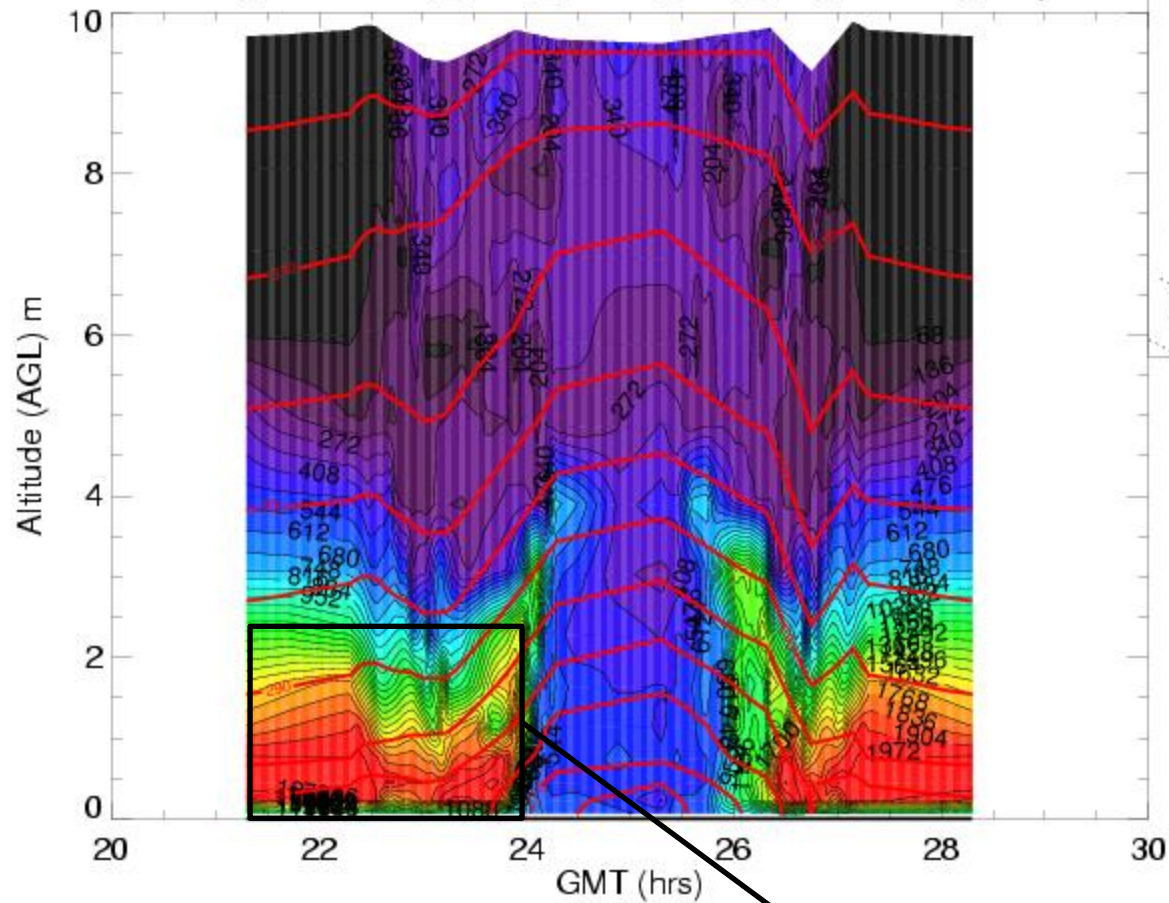


108hr FX idust Cl= 4.00000 max= 140.771
RAQMS_20080421_00Z_108hr_fcst_rdf_curtain_arcpac.dat



Dust return flow at 1km
Fairbanks-> Barrow

108hr FX iso4 Cl= 68.0000 max= 2064.46
RAQMS_20080421_00Z_108hr_fcst_rdf_curtain_arcpac.dat



SO4 return flow at 1km
Fairbanks-> Barrow



“Fresh” pollution return flow at 1km
Fairbanks-> Barrow